SIEMENS

ACUSON X600
ACUSON X700
Diagnostic Ultrasound System
System Reference

US

CE
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CE Declaration

This product is provided with a CE marking in accordance with the regulations stated in Council Directive 93/42/EEC of June 14, 1993 concerning Medical Devices. The CE marking only applies to medical devices that have been put on the market according to the above referenced Council Directive.

Unauthorized changes to this product are not covered by the CE marking and the related Declaration of Conformity.

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Contents

Note: Not all features and options described in this publication are available to all users. Please check with your Siemens representative to determine the current availability of features and options.

About the User and Reference Manuals

The user and reference manuals contain descriptions for the following ultrasound systems:

- ACUSON X600 diagnostic ultrasound system
- ACUSON X700 diagnostic ultrasound system

Features and options unique to an ultrasound system are identified in Chapter 1 and Appendix A of the Instructions for Use.

The user and reference manuals consist of the following publications.

Publication	Includes
Instructions for Use	- Intended Audience - Technical description of the ultrasound system - Safety and care information for the system and compatible transducers - Descriptions of all system controls - Procedures for system setup, examination fundamentals, and the biopsy function - Acoustic output data
Features and Applications Reference*	- Descriptions of image acquisition and optimization, including optional imaging features - General and exam-specific measurements and calculations - Data management - Explanation of the clinical software programs for use on the ultrasound system
System Reference*	- Description of customizable system settings - Information about DICOM connectivity, network capabilities, and external devices - Clinical references
Electromagnetic Emissions and Immunity: Guidance and Manufacturer's Declaration*	Information regarding the electromagnetic compatibility (EMC) testing of this system

*Languages supported by the user interface include a translation of this publication.

Conventions

Take a moment to familiarize yourself with these conventions.

Warnings, Cautions, and Notes	⚠ **WARNING:** Warnings are intended to alert you to the importance of following the correct operating procedures where risk of injury to the patient or system user exists. ⚠ **Caution:** Cautions are intended to alert you to the importance of following correct operating procedures to prevent the risk of damage to the system. **Note:** Notes contain information concerning the proper use of the system and/or correct execution of a procedure.
Cross-References	**Examples:** **See also:** Biohazards, Safety and Care, Chapter 2, Instructions for Use **See also:** Documentation Devices, Chapter 2, System Reference **See also:** Alphanumeric Keyboard, p. 26
Customizable System Settings	System settings available for customization are depicted as shown. **Example:** ▤ **Default Settings > Automatic Freeze Response**
Keys and Controls	Keys and controls located on the control panel are identified by uppercase, boldface type. **Example:** Rotate the **2D** control. Keys located on the keyboard are identified by boldface type. **Example:** Press the **Exam** key.
On-screen Objects	On-screen objects such as menu selections, soft key selections, and buttons are identified by boldface type. **Example:** The system displays the **Patient Registration** form.
Selection of On-screen Objects	The **SET** key on the control panel functions as a point-and-select device (similar to a computer mouse) when used with the trackball. "Select" or "click" describes this action: Roll the trackball to position the pointer (cursor) on an on-screen object and then press the **SET** key. "Double-click" describes this action: Roll the trackball to position the pointer (cursor) on an on-screen object and then press the **SET** key twice. "Drag" describes this action: Roll the trackball to position the pointer (cursor) on an on-screen object and then press and hold the **SET** key. Roll the trackball to reposition the object and then release the **SET** key.

Intended Audience

The intended audience for the user and reference manuals includes the following users.

User	Interaction with Ultrasound Equipment	Expected Experience and Other Characteristics
Sonographer	- Acquires diagnostic views of anatomy, blood flow, and related pathology - Performs measurements and analysis of the acquired images - Prepares exam data for review and interpretation by a qualified physician	- Ranges from novices (for example, students) to advanced practitioners with certification in multiple subspecialties - Educated in anatomy, physiology, patient care, and identification of pathology in ultrasound images - Many sonographers have a Bachelor's degree; some have advanced degrees in related health care subjects
Cardiologist	- Performs invasive and non-invasive ultrasound exams - Interprets exam data, including echocardiography exam data - Writes and assembles exam findings in a report	- Medical doctor - Expert in diagnostic imaging, including computed tomography (CT), magnetic resonance imaging (MRI), X-ray, ultrasound, and nuclear medicine - Advanced training in imaging physics with typically four to six years of post-doctoral training in the field of cardiology
Maternal-fetal Medicine Obstetrician/ Perinatologist	- Performs ultrasound exams - Interprets exam data - Writes and assembles exam findings in a report	- Medical doctor - Manages high-risk obstetrical patients for the safe and successful delivery of the fetus - Skilled in interpreting ultrasound exam data
Radiologist and Internist	- Performs ultrasound exams - Interprets exam data - Writes and assembles exam findings in a report	- Medical doctors - Expert in diagnostic imaging, including CT, MRI, X-ray, ultrasound, and nuclear medicine - Advanced training in imaging physics with typically two to six years of post-doctoral training in the field of radiology
System Administrator and Customer Service Engineer	Configures the ultrasound system for use in a networked environment	- A System Administrator is an individual within your organization who is designated to set up system parameters to connect the ultrasound system or workstation to a picture archiving and communication system (PACS). - Customer Service Engineers are Siemens representatives who configure the ultrasound system or workstation during software installation and support troubleshooting activities.

1 System Presets

Setting General Preferences

When the ultrasound system is installed at your site, all system settings are factory-defined. You can use the options and settings available in the *system presets* to set up the ultrasound system with your preferences for imaging. System presets define the configuration of the system software whenever you power on the system.

Using the System Presets

You can use the system presets at any time to change the factory (default) settings or modify your own presets.

Note: After powering on the system, you must wait until the system completes the series of self-diagnostic and calibration tests before making any changes to the system presets. These tests last a few minutes, after which the system presets are ready for use.

Siemens recommends that you back up your system presets and QuickSets onto external storage media to prevent accidental loss of your information.

To use the system presets:

1. Press the **Presets** key on the keyboard.

   The system displays the **Presets** screen, with menu items on the left and selections on the right.

2. Roll the trackball to the required menu item on the left of the screen and then press the **SET** key on the control panel.

   The system displays selections for the selected menu item.

To save changes and exit the system presets:

▪ Select the **Save** button at the bottom of the screen.

To discard changes and exit the system presets, choose a method:

▪ Select the **Cancel** button at the bottom of the screen and then select **No** in the displayed confirmation message.

▪ Press the **Presets** key on the keyboard and then select **No** in the displayed confirmation message.

Making Screen Selections

Use the following techniques to make selections on the right of the **Presets** screen. You can typically roll the trackball to position the trackball pointer on a menu item or setting and then press the **SET** key to complete the selection.

- **Drop-down lists** – To open the menu, roll the trackball to position the pointer on the arrow and then press the **SET** key. To make a selection, roll the trackball to highlight the selection and then press the **SET** key.
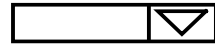
  Drop-down list.

- **Spin buttons** – To set a higher or lower numeric value, roll the trackball to position the pointer on the up or down arrow and press the **SET** key until the desired value displays.

  Spin button.

- **Check boxes** – The option is selected when a checkmark displays inside the box and de-selected when the box is clear. To select or clear the check box, roll the trackball to position the pointer in the box and then press the **SET** key.

  Check box.

- **Buttons** – To select a labeled button, roll the trackball to position the pointer on the button or the label and then press the **SET** key. In some places, only one button can be selected at a time.

  Option button.

- **Text entry** – Roll the trackball to position the cursor in the field and then press the **SET** key. Use the keyboard to enter text. When finished, use the **Tab** key to move to another field or roll the trackball to reposition the cursor and then press the **SET** key.

  Text entry.

Presets Screen

The left side of the **Presets** screen lists the following menu items:

Menu Item	Allows you to...
General 1	Enter the name of the hospital or clinic; select a format for the language, date and time, height and weight; select the trackball speed; adjust audio settings; and select preferences for powering on and off the system.
General 2	Select the registration method (patient data form and data entry requirements); select settings for pictograms and text; enable the system to save images with measurement markers; and designate the storage format for patient data forms, images and reports.
Peripheral	Specify settings for peripheral devices connected to the ultrasound system, for example, a video recorder or bar code reader.
Customize Keys	Assign functionality to specific controls on the control panel and the optional footswitch.
Display	Customize the image screen, for example, enable or disable the screen saver, depth gain compensation curve, cursor in Doppler or M-mode, and patient information.
Exam Configuration	Modify general settings for the selected exam type.
User-Defined Exam List	Enable or disable access to each exam type. **See Also:** For a list of exam types, see Examination Fundamentals, Chapter 4, Instruction for Use.
Text Annotation	Customize annotation libraries for selected exam types or QuickSets.
Pictogram List	Customize pictogram libraries for selected exam types or QuickSets.
M & R Configuration	Select caliper (measurement function) conventions, establish preferences for measurement and reports for each type of exam, and select the number of heart cycles to use when calculating the heart rate.
Summary	Customize page elements for the Summary report.
Service	Access password-protected service procedures.
Stress Echo	Access a new screen. Displays the **Maintenance** dialog box, from which the system allows you to configure options for the optional Stress Echo feature.
SieScape	Specify settings for SieScape.
CAI	Activate the contrast agent imaging (CAI) function and designate the extended clip duration.
Wireless	Configure wireless network connections.
DICOM	Configure the ultrasound system and connected devices (such as servers and printers) for DICOM by creating, editing, and activating aliases (DICOM configurations).
DIMAQ Utility	Specify the display of the right panel.
Clip Capture	Designate clip capture parameters: capture type, clip length, R-wave delay, and JPEG compression.
Network Export	Verify selection of an existing setup, select another setup, edit an existing setup, or create a new setup for the host or export host.
Authorization	Manage accounts and passwords for access to DIMAQ study screens.
Archive	Configure archive deletion and save options.
Printer	Install and configure USB printers.

General 1

Selection	Option(s)	Allows you to...
Organization	---	---
Hospital Name	text entry	Enter the name of your hospital or clinic using up to 45 characters. You can modify this entry at any time.
Format	---	---
Language	**English** **German** **French** **Spanish** **Italian** **Chinese**[1]	Designates the system language.
Date Format	**Month / Day / Year** **Day / Month / Year** **Year / Month / Day**	Select the format for the date. The selected format is used in the image screen, the Patient Data form, and the patient reports.
Date & Time Settings	---	Access a new screen. Enter the current date and time.
Height & Weight Format	**Metric** **U.S.**	Select the format for the display of the patient's height and weight used in the Patient Data entry form.
Audio	---	---
Beep on Key Press	on, off	Select this check box to enable the beep to sound when a key is pressed.
Beep after Store Completes	on, off	Select this check box to enable the beep to sound when storage is completed.
Beep Volume	**1** through **4**, in increments of 1	Set the volume of the beep. Option 1 is the quietest, Option 4 is the loudest.
Line-in Volume	**Off**, **1** through **25**	Adjusts the volume of video playback.
Trackball Behavior	---	---
Trackball Travel Speed	**Low** **Medium** **High**	Select the responsiveness of the system to trackball movement. **Low** repositions an object a short distance with minimal trackball movement. **Medium** repositions an object a moderate distance with minimal trackball movement. **High** repositions an object a long distance with minimal trackball movement.
Boot Up	---	---
Active Transducer	**LC1** **LC2** **LC3**	Select a transducer port to be active when you power on the system.
Power Off	**Shutdown Confirmation Dialog** **Power Off**	Select the system response when the partial power on/off switch (⏻) is pressed. **Shutdown Confirmation Dialog** — Displays a confirmation dialog box when powering off the system. **Power Off** — Powers off the system directly.
Close Study on System Standby	on, off	(Available when **Shutdown Confirmation Dialog** is selected for **Power Off**.) Select this check box to close the current study when standby mode is activated.

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[1] Supported languages are dependent on regional availability.

General 2

Selection	Option(s)	Allows you to...
Patient ID	---	---
AutoStore New Patient Form	on, off	Automatically store a screen representation of the completed patient data form to the registered patient's study.
Customize Entry Order…	---	Access a new screen. Customize the order entry sequence in the patient data form.
Common Mode	---	---
Delete Pictogram on Unfreeze	on, off	Select this check box to erase an on-screen pictogram after an image is unfrozen.
Delete Text on Unfreeze	on, off	Select this check box to erase on-screen text annotation after an image is unfrozen.
Pictogram Location	**Upper Right** **Lower Right**	Displays the pictogram at the selected screen location.
Font Size	**12**, **14**, **16**, **18**, **20**	Select the point size of the font used for annotations.
Arrow Size	**Small (Type1)** **Small (Type2)** **Small (Type3)** **Medium (Type1)** **Medium (Type2)** **Medium (Type3)** **Large (Type1)** **Large (Type2)** **Large (Type3)**	Select the size and the type of the directional arrows used for annotations.
Patient Registration	**Original** **e-entry**	**Original** uses the standard patient registration form with conventional requirements for data entry and with modified requirements for data entry: ▪ Automatically entered year for **History** fields with OB, Early OB, GYN, EM and Fetal Echo exam types (when month and day are entered). ▪ Editable fetal age (**Age** field for OB, Early OB, EM and Fetal Echo exam types). **e-entry** displays an overlay of patient identification fields on the image screen.
Measurement Result Display Size	**Small** **Medium** **Large**	Select the size of display for the measured results.
Image Store	---	---
Image Store Format with Caliper	on, off	Enable or disable storage of caliper (measurement) information with the image.
Size	**Full Screen** **Diagnostic Window Only (1024x768)**	Select the storage of the entire screen (including the imaging parameters, thumbnail and soft keys) or only the image area.

Customizing the Sequence of Data Entry for the Patient Data Form

Note: This selection applies to the original patient data form only. To display an abbreviated patient registration form, use the system presets to select the e-entry form.

During patient registration, pressing the **Tab** key on the keyboard moves the text cursor to the beginning position of the next entry field in the patient data form. You can change the order entry sequence by restricting the **Tab** key to move through only the fields selected in the **Customize Entry Order** screen.

The **Customize Entry Order** screen has two columns: **Selectable Entries** on the left (the factory-default is blank) and **Entry Order** on the right (the factory-default lists all fields on the patient data form). The order of the entries in the **Entry Order** column indicates the order of the cursor in the patient data form when the **Tab** key is pressed.

Although you can customize the movement of the **Tab** key through the fields on the patient data form, the layout of the fields on the form is unchanged.

Note: You can use the trackball and **SET** key to move to any field on the patient data form.

To use the Customize Entry Order screen:

1. Press the **Presets** key on the keyboard to display the system presets and then select **General 2** from the left of the screen.
2. Select the **Customize Entry Order** from the right of the screen.
3. To remove a field from the **Entry Order** column, select the name of the field and click **Delete**.
4. To remove all fields from the **Entry Order** column, click **Delete All**.
5. To insert a field from the **Selectable Entries** column, select the name of the field and click **Add**.
6. To change the order of fields in the **Entry Order** column, select the name of the field and click **Move Up** or **Move Down**.
7. To restore the factory default settings, select the **Default** button at the bottom of the screen and then select the **Yes** button in the displayed message box to confirm the action.

Peripheral

Selection	Option(s)	Allows you to...
DVR	---	---
Device Type	**TEAC UR-50BD** **None**	Select the video recording device.
Key Function	**Record / Pause** **Record / Stop**	Assign functionality to the key set up for use with a video recording device.
Barcode Reader	---	(Requires a connected barcode reader and your facility's representative barcode sample) Map the barcode sample to entry fields on the ultrasound system's patient registration form.
Scan a barcode	(scanned entry)	Display the characters transferred from the scanned barcode sample. The position of the cursor is listed beside the barcode characters. **Note:** You can position the cursor in the barcode to determine the starting position (offset) of each entry field.
(check box)	**Last Name** **First Name** **Patient ID** **Performing MD** **Sonographer**	Enable or disable the selected entry field for use with the barcode reader.
Offset	(numerical entry)	Enter the starting position of the selected field in the barcode sample.
Length	(numerical entry)	Enter the character length of the selected field. **Note:** All fields support up to 24 characters except the **Performing MD** field and the **Sonographer** field (limited to 64 characters).

Customize Keys

Selection	Option(s)	Allows you to…
Key Direction	---	---
Depth(+)	**CW** **CCW**	Assign the direction of rotation to the **DEPTH** control for increasing the depth. (**CW** = Clockwise, **CCW** = Counterclockwise)
Zoom(+)	**CW** **CCW**	Assign the direction of rotation to the **ZOOM** control for increasing the magnification factor. (**CW** = Clockwise, **CCW** = Counterclockwise)
Focus(+)	**CW** **CCW**	Assign the direction of rotation to the **FOCUS** control for decreasing the depth of the focal zone marker (to the near field). (**CW** = Clockwise, **CCW** = Counterclockwise)
Key Function	---	---
Soft Key	**Customize…**	Access a new screen. Displays the soft key screen, from which the system allows you to customize the display of soft key selections.
Print/Store 1 Key **Print/Store 2 Key**	**PC Printer** **USB B/W** **USB Color** **Disk Store** **Clip/Volume Store** **DICOM B/W Print** **DICOM Color Print** **Disk Store & PC Printer** **Disk Store & USB B/W** **Disk Store & USB Color**	Assign functionality to the **PRINT/STORE1** key. Assign functionality to the **PRINT/STORE2** key. **Note:** The selections for USB printers (for example, **PC Printer** or **Disk Store & USB B/W**) are available when you select a USB printer (located in the **Printer** section of the **Printer** presets screen).
Clip Store Key	**Disk Store** **Clip/Volume Store**	Assign functionality to the **CLIP STORE** key.
Left Pedal **Right Pedal**	**Freeze** **Disk Store** **Clip/Volume Store** **Rotate 90° Clockwise (TEE)** **Rotate 90° Counter Clockwise (TEE)** **Caliper** **Update/View** **Escape/Timer** **4B** **Split** **TGO Update** **U/D Flip** **L/R Flip** **USB B/W** **USB Color**	Assign functionality to the left or right pedal of the optional footswitch. **Note:** The selections for USB printers (for example, **PC Printer** or **Disk Store & USB B/W**) are available when you select a USB printer (located in the **Printer** section of the **Printer** presets screen).

Selection	Option(s)	Allows you to…
User-Defined 1 Key	**4B**	Assign functionality to the **UD 1, UD 2,** and **UD 3** key.
User-Defined 2 Key	**Split**	
User-Defined 3 Key	**Sector**	
	U / D Flip	
	L / R Flip	
	Full Size	
	Full D	
	Full M	
	Dir Power	
	ECG	
	Exam	
	Report	
	Graph	
	Arrow	
	Clip/Volume Store	
	Biopsy	
	Clarify VE	
	Rotate 90° Clockwise (TEE)	
	Rotate 90° Counter Clockwise (TEE)	
	Text A	
	Text B	
	DVR	
	Transducer	
	Freeze (for **UD 3** only)	
	TGO update (for **UD 2** only)	
	None	
NEW Key	**Not Used**	Select the system response when the **NEW** key is pressed.
	Close Study	**Not Used** disables the **NEW** key.
	Close Study and reload boot-up setting	**Close Study** closes the current study.
		Close Study and reload boot-up setting closes the current study and resets the system with the boot-up setting.
Exchange Key Functionality	---	---
Exchange Functionality of Set and Escape key	on, off	Exchange the functionality of the **SET** key and **ESCAPE** key on the control panel.

Customizing the Display of Soft Key Selections

You can rearrange or remove the soft key selections available for the following modes of operation:

- 2D-mode
- Color Flow
- Power
- M-mode
- Doppler
- 3D imaging
- 3D Setup
- 3D/4D

Note: An asterisk (*) indicates there are unsaved changes on a tab.

To customize the display of soft key selections:

1. Press the **Presets** key on the keyboard to display the system presets and then select **Customize Keys** from the left of the screen.
2. Click **Customize**.

   Each mode has a tab for real-time imaging selections (Live [**Lv**]) and a tab for system freeze selections (**Frz**). Each tab has multiple "pages" of soft key selections.
3. To remove soft key selections from buttons:
   a. Select the button representing the soft key selection.

      The system displays a drop-down list of available options below the selected button.

   b. Select **Blank**.
4. To remove a page of soft key selections, select the **<<** or **>>** button to access the page and then select the **Delete Page** button.

   The system removes the labels from all buttons on the page.
5. To remove a tab of soft key selections, select the **Delete All** button.

   The system removes the labels from all buttons on all pages of the tab.
6. To assign a new soft key selection to a button:
   a. Select the required button representing the soft key selection.

      The system displays a drop-down list of available options below the selected button.

   b. Select the required label.

Display

Selection	Option(s)	Allows you to…
Monitor	---	---
Enable Screen Saver	on, off	Select this check box to activate or uncheck to deactivate the screen saver.
Screen Saver Delay	**5** **10** **15** **20**	Select the time delay (in minutes) before the system activates the screen saver.
Screen Saver Type	**Black** **SIEMENS**	Select the background for the screen saver.
Display	---	---
Video Invert	on, off	Select the polarity of the video display for the main image screen. Text is always white against gray or gray against white. On (checked) displays a white image area against a black background. Off (cleared) displays a black image area against a white background.
DGC	---	---
DGC Invert with Image Invert	on, off	Select this check box to invert the DGC graphic on the image screen when you rotate the image.
DGC Curve Display	**Off** **Always On** **Time Out**	Select when the DGC graphic displays on the image screen. **Off** prevents the DGC from displaying on the image screen. **Always On** displays the DGC continuously on the image screen. **Time Out** removes the DGC from the screen three seconds after you adjust the curve. When you adjust the DGC controls again, the curve reappears on-screen.
DGC Control	**Max image depth** **Current image depth**	Select the image depth setting.
Thermal Index Display(Neo Head Exam only)	**TIS / TIB** **TIC**	Select whether to display **TIS / TIB** (Soft Tissue Thermal Index / Bone Tissue Thermal Index) or **TIC** (Cranial Bone Thermal Index) during neonatal head exams.

Selection	Option(s)	Allows you to…
Doppler / M-Mode	---	---
Bypass M / D Cursor Display	on, off	Select the system response when the **M** or **D** control is pressed. Select this check box to immediately display M-mode or Doppler. De-select the check box to initially display an M-mode or Doppler cursor in the 2D-mode image; the **M** or **D** control must then be pressed a second time for M-mode or Doppler to display.
Doppler Search Mode	on, off	Select this check box to activate Doppler Search Mode by pressing the **D** control, and audibly interrogate vessels with Doppler in 2D-mode before displaying the Doppler spectrum.
Doppler Frequency / Velocity	**Frequency** **Velocity**	Display frequency (Hz) or velocity (cm/s) as a unit in the Doppler spectrum.
Patient Banner	---	---
Patient Data	**Age** **Date of Birth**	Display the age or the date of birth of the patient on the image screen.
Hide Patient Information	on, off	Display or hide the patient demographic information.

Exam Configuration

Selection	Option(s)	Allows you to...
Exam	(list of exams)	Select an exam for customization.
Automatic Freeze Response	**Caliper** **Arrow** **Text** **Cine** **Pictogram**	Select the system response when the **FREEZE** key is pressed. **Cine** activates the CINE function. **Caliper** activates the measurement function. **Text** activates the annotation function. **Arrow** activates the arrow function.
Seamless Dual	**On** **Off**	Activate seamless display of dual and split images.
Steer Angle Type (VF10-5 Only)	**FOV-1** **FOV-2**	Specify the steering angle for the VF10-5 transducer.
2D/M & 2D/Doppler Display Format	**1/2 2D – 1/2 trace** **1/3 2D – 2/3 trace** **2/3 2D – 1/3 trace** **Side by side**	Specify the image screen layout when two imaging modes are active. **1/2 2D – 1/2 trace** presents 2D-mode on the right side of the upper 1/2, with M-mode or Doppler in the lower 1/2. **1/3 2D – 2/3 trace** presents 2D-mode on the right side of the upper 1/3, with M-mode or Doppler in the lower 2/3. **2/3 2D – 1/3 trace** presents 2D-mode on the right side of the upper 2/3, with M-mode sweep or Doppler spectrum in the lower 1/3. **Side by side** presents 2D-mode in the left 40 percent of the screen and either the M-mode sweep or the Doppler spectrum in the right 60 percent of the screen.
Default Doppler Update Style	**2D-Frz / D-Lv** **2D-Lv / D-Lv** **D-Lv / 2D-1s** **D-Lv / 2D-2s** **D-Lv / 2D-4s** **D-Lv / 2D-8s** **D-Lv / 2D-EOS**	Select display of real-time 2D image during update or select the update interval for the 2D image during update. The update interval for **D-Lv / 2D-EOS** is the end of the sweep.
Linear Steer Color Invert	**On** **Off**	Select **On** to automatically invert the color velocity scale when you steer the ROI.
Auto Invert of Color and Spectrum	**On** **Off**	Select **On** to invert the Doppler spectrum and the color bar together in 2D-mode with Color / Doppler when the **INVERT** key is pressed.

Selection	Option(s)	Allows you to...
2D-Mode Steer with Cursor	**On** **Off**	Select **On** to allow the 2D-mode display to be steered by moving the Doppler cursor.
Physio Management	**Lead Type I** **Lead Type II**	Select the lead type for use with the physiologic function. **Lead Type I** is the convention for the right arm and the left arm. **Lead Type II** is the convention for the right arm and the left leg.
3 Lead ECG Display	on, off	Select this check box to display the related trace when the selected exam is activated. ECG trace displays from the ECG input.
Indicate R-Wave	on, off	Select this check box to identify R-wave triggers in CINE and also to indicate poor detection of an R-wave.
Aux ECG Display	on, off	Select this check box to display the external ECG trace from the auxiliary input when the selected exam is activated.
Aux Signal Display	on, off	Select this check box to display the external signal from the auxiliary input when the selected exam is activated.
Respiration Display	on, off	Select this check box to display the respiratory trace when the selected exam is activated.
Auto FOV with Color Activation	**On** **Off**	Automatically adjust the 2D-mode field of view (FOV) to the color region of interest (ROI).

User-Defined Exam List

Note: The currently activated exam is unavailable (dithered). The default exam for each transducer will continue to display in the Exam list when an exam is de-selected in the **User-Defined Exam List** screen.

Selection	Option(s)	Allows you to...
Enable Exam	---	Customize the list of available exams for some items in the **Presets** screen.
(list of exams)	on, off	

Text Annotation

Selection	Option(s)	Allows you to...
Exam & QuickSet	(list of exams)	Select an exam type or QuickSet for customization.
Set Text A / Text B	on, off	Display the screen to enter user-defined annotations that are assigned to Text A and Text B.
Text Annotation	**Anatomy** **Position** **User Defined**	Display the selected list (library) of annotations.
(text box)	---	Enter a user-defined annotation or change the selected annotation.
Modify	---	Replace the selected annotation with the characters displayed in the text box.
Add	---	Insert the annotation that is displayed in the text box into the displayed list (library).
Delete	---	Remove the annotation that is displayed in the text box from the displayed list (library).
Move Up	---	Shift the selected annotation to the next highest position within the list (library).
Move Down	---	Shift the selected annotation to the next lowest position within the list (library).
Tab Order	**General** **Position** **Anatomy** **User Defined**	Display or arrange the position of the selected tab indicator.
Auto-Complete	**On** **Off**	When enabled (selected), the system displays a matching phrase from the pre-defined text library based on the first few letters you enter using the keyboard. **Note:** You must press the **Tab** key on the keyboard or double-click **SET** to accept the displayed phrase.

Customizing Text Annotations

Each exam type has a list of text annotations for anatomical structures and body positions.

You can display a library of annotations for an exam type or QuickSet, use the scroll bar to display additional selections, insert, edit, and remove annotations, change the position of annotations within the library, and reset the annotation library to factory defaults.

To display a library of annotations for an exam type or QuickSet:

1. Press the **Presets** key on the keyboard to display the system presets and then select **Text Annotation** from the left of the screen.

    The system displays the **Customize Text Annotation** screen.

2. Select the exam type or QuickSet from the **Exam & QuickSet** drop-down list.

3. To exit the system presets without saving changes, select the **Cancel** button at the bottom of the screen and then select **No** to confirm the action.

To display additional selections when a scroll bar is displayed:

1. Roll the trackball to the up or down arrow on the scroll bar to the right of the selections and press and hold the **SET** key.

2. Roll the trackball until the required selections are displayed and then release the **SET** key.

To insert an annotation into the displayed library:

1. To specify the location for the new annotation, select an existing annotation within the library.

    The system highlights the selected annotation and displays the annotation in the text box.

2. Use the keyboard to delete the text in the text box and then enter the new annotation into the text box.

    Note: You can enter up to 25 characters.

3. Select the **Add** button.

    The system inserts the new annotation below the selected existing annotation within the library.

4. To save changes and exit the system presets, select the **Save** button at the bottom of the screen.

To edit an annotation in the displayed library:

1. Select the annotation within the library.

    The system highlights the selected annotation and displays the annotation in the text box.

2. Use the keyboard to edit the annotation in the text box.

3. Select the **Modify** button.

    The system replaces the selected annotation with your edits.

4. To save changes and exit the system presets, select the **Save** button at the bottom of the screen.

To remove an annotation from the displayed library:

1. Select the annotation within the library.

    The system highlights the selected annotation and displays the annotation in the text box.

2. Select the **Delete** button.

3. To save changes and exit the system presets, select the **Save** button at the bottom of the screen.

To change the position of an annotation within the displayed library:

1. Select the annotation within the library.

   The system highlights the selected annotation and displays the annotation in the text box.

2. To shift the annotation to the next highest position within the library, select the **Move Up** button.

3. To shift the annotation to the next lowest position within the library, select the **Move Down** button.

4. To save changes and exit the system presets, select the **Save** button at the bottom of the screen.

To enter user-defined annotations that are assigned to Text A and Text B:

1. Select the **Set Text A / Text B** check box.

   The system displays the text box to enter user-defined annotations for Text A.

2. Enter the user-defined annotation in the text box and select **Add**.

3. Select **Save**.

4. To enter a user-defined annotation for Text B, select **Text B** from the **Exam & QuickSet** drop-down list and repeat steps 2 and 3.

To select the display of a tab:

Note: You cannot hide the **General** tab indicator.

- To display an annotation tab indicator, select the check box next to the name of the tab in the **Tab Order** list.

- To hide an annotation tab indicator, clear the check box next to the name of the tab in the **Tab Order** list.

To rearrange the order of annotation tabs:

1. Select the name of a tab indicator in the **Tab Order** list.

2. Click **Move Up** or **Move Down** to position the tab indicator.

To reset annotations for the selected exam type or QuickSet to factory defaults:

- Select the **Default** button at the bottom of the screen and then select the **Yes** button in the displayed message box to confirm the action.

Pictogram List

Selection	Option(s)	Allows you to...
Exam & QuickSet	(list of exams)	Select an exam type or QuickSet for customization.
All Pictograms	---	Display the pictograms available on the system.
Selected	---	Display the library of pictograms for the selected exam type or QuickSet.
Add	---	Insert the selected pictogram into the displayed library.
Delete	---	Remove the selected pictogram from the displayed library.
Move Front	---	Shift the selected pictogram to the next position within the library.
Move Back	---	Shift the selected pictogram to the previous position within the library.

Customizing Pictograms

Each exam type has pictograms that can be selected when the exam type is active. The pictograms are stored in libraries that you can edit for each exam type. The first available pictogram in the library displays on the screen when you press the **PICTOGRAM** key on the control panel.

You can display the library of pictograms for an exam type or QuickSet, use the scroll bar to display additional selections, insert and remove pictograms, change the position of pictograms within the library, and reset the pictogram library to factory defaults.

To display the library of pictograms for an exam type or QuickSet:

1. Press the **Presets** key on the keyboard to display the system presets and then select **Pictogram List** from the left of the screen.

   The system displays the **Customize Pictogram List** screen.

2. Select the exam type or QuickSet from the **Exam & QuickSet** drop-down list.

3. To exit the system presets without saving changes, select the **Cancel** button at the bottom of the screen and then select **No** to confirm the action.

To	Do This
Insert a pictogram into the library	▪ Select an existing pictogram from the **All Pictogram** list and then click **Add**. The system places the new pictogram at the bottom of the **Selected** list.
Rearrange the pictograms	1. Select an existing pictogram from the **Selected** list. 2. To reposition the pictogram forward in the list, click **Move Front**. 3. To reposition the pictogram backward in the list, click **Move Back**.
Delete a pictogram from the library	▪ Select an existing pictogram from the **Selected** list and then click **Delete**. The system places the pictogram in the **All Pictogram** list.

To display additional selections when a scroll bar is displayed:

1. Roll the trackball to the up or down arrow on the scroll bar to the right of the selections and press and hold the **SET** key.
2. Roll the trackball until the required selections are displayed and then release the **SET** key.

To insert a pictogram into the displayed library:

1. Select the new pictogram from the **All Pictograms** section of the screen.
2. Select the **Add** button.

   The system places the new pictogram at the bottom of the list in the **Selected** section of the screen.

3. To save changes and exit the system presets, select the **Save** button at the bottom of the screen.

To remove a pictogram from the displayed library:

1. Select the pictogram from the **Selected** section of the screen.

   The system outlines the selected pictogram.

2. Select the **Delete** button.
3. To save changes and exit the system presets, select the **Save** button at the bottom of the screen.

To change the position of a pictogram within the displayed library:

1. Select the pictogram from the **Selected** section of the screen.

   The system outlines the selected pictogram.

2. To shift the pictogram to the next position within the library, select the **Move Front** button.
3. To shift the pictogram to the previous position within the library, select the **Move Back** button.
4. To save changes and exit the system presets, select the **Save** button at the bottom of the screen.

To reset pictograms within the displayed library to factory defaults:

▪ Select the **Default** button at the bottom of the screen and then select the **Yes** button in the displayed message box to confirm the action.

M & R Configuration

Selection	Option(s)	Allows you to…
Heart Rate Tool	---	---
Number of Heart Cycles for Heart Rate	**1**, **2**, **3**, **4**, **5**	Select the number of heart cycles.
Measurement and Report Preset	---	---
Report Data Auto Store	on, off	Select the check box to automatically store the patient report and measurement data to the DIMAQ integrated workstation when studies are ended.
(Drop-down list)	(list of exams)	Change measurement and report settings for the selected exam type.
Comments Library	---	(For use with all exam types)
		Enter up to 10 comments for automated inclusion into the Report and Summary.
Recommendations Library	---	(For use with all exam types)
		Enter up to 10 recommendations for automated inclusion into the Summary.
Anatomy Assessment	---	(For use with all exam types)
		Define and display descriptive data fields and related descriptions for patient reports.

Customizing the Measurement and Report Preset Settings

The **Measurement and Report Preset** section allows you to customize each exam type.

Measurement Method

(For use with all exam types)

Use this selection to establish a shortcut to a specific measurement method.

The upper section of this screen allows you to select the method activated when the system first enters the measurement function for the specified imaging mode.

The lower section of this screen allows you to select a specific method for automatic activation when a general measurement method is selected in the measurement function. For example, if **Ellipse** is selected in the **Area** field, selecting **Area** from the list of general measurement methods automatically activates the Ellipse method.

To select the Default Measurement Method by Mode:

1. For each imaging mode, roll the trackball to the arrow on the right side of the method field and then press the **SET** key.

   The system displays a pull-down menu of available measurement methods for this imaging mode.

2. Roll the trackball to highlight a measurement method and then press the **SET** key.

   The highlighted method becomes the default for this imaging mode.

To select the Default Measurement Method:

1. For each measurement method category, roll the trackball to the arrow on the right side of the method field and then press the **SET** key.

   The system displays a pull-down menu of specific methods.

2. Roll the trackball to highlight a measurement method and then press the **SET** key.

   The highlighted method becomes the default for this method category.

Customize Keys

(For use with all exam types)

You can customize the display of soft key selections for use during the measurement function for the following modes:

- 2D-mode
- M-mode
- Doppler

See also:

Comments Library for Report

(For use with all exam types)

For exam types with reports, you can enter ten comments for automated inclusion into the report. A maximum of 255 characters is allowed per comment.

Creating a library of comments for a patient report saves you time, particularly for recurring examinations. Rather than entering a phrase in the comment section of a report, you can access pre-defined comments for quick entry by rolling the trackball to the **Comments** button and then pressing the **SET** key.

To enter comments:

1. Roll the trackball to one of the comment fields and then press the **SET** key.
2. Use the keyboard to type in up to 255 alphanumeric characters.
3. Repeat steps 1 and 2 for each required comment.
4. Complete comment entry by rolling the trackball to the **Save** button and then pressing the **SET** key.

Recommendations Library

(For use with all exam types)

You can access recommendations defined in the system presets for quick entry by clicking **Recommendations** in the Summary.

To	Do This
Enter recommendations into the library	1. Position the cursor on one of the recommendation fields.
	2. Enter the recommendation text (up to 255 characters).
	3. Click **Save**.

General Configuration

(For use with all exam types)

Selection	Option(s)	Allows you to…
General Caliper	---	Change general settings that apply to all exam types.
Caliper Default Position	**Center** **Menu** **Depth**	Assign trackball control to the pointer or measurement marker when the measurement function is initiated.
		Center displays the first marker in the center of the image screen. A depth value does not display.
		Menu displays the trackball pointer in the Measurement Menu if a label is available. For exam types with no labels, the trackball pointer remains in the center of the image screen when **Menu** is selected.
		Depth displays the first marker in the center of the image screen, with a dotted line representing the depth from the skin line. A depth value displays in the Measured Results area of the image screen until you anchor the first marker.
Caliper Pattern	**x** **+**	Specify the shape of the caliper. You can specify one shape at a time for the entire system. Multiple measurements use the same shape, but are differentiated by number.
Caliper Size	**Small** **Medium** **Large**	Specify the size of the caliper for use by the entire system. A smaller size may make a larger number of calipers easier to view.
Measurement Results Background	**On** **Off**	Activate or deactivate a background for the Measured Results section of the image screen.
Measurement Result Display	---	---
2D-Mode	**Top** **Bottom** **Left** **Right**	Displays the Measured Results at the selected screen location in 2D-Mode.
Doppler/M-Mode	**Top** **Bottom** **Left** **Right**	Displays the Measured Results at the selected screen location in Doppler or M-Mode.

Anatomy Assessment

(For use with all exam types)

To	Do This
Create a user-defined item (descriptive data field)	**Note:** You can create up to 10 user-defined items for OB and EOB exams and up to 39 user-defined items for other exams. 1. Select the **Item** tab. 2. Enter an item in the **User-Defined Item** text box. 3. Click **Add**. The user-defined item displays in the lower **Items** list.
Delete a user-defined item	1. Select a user-defined item from the lower **Items** list. 2. Click **Delete**.
Create a user-defined selection corresponding to a selected item	1. Select the **Selections** tab. 2. Select an item from the **Item** list. 3. Enter a selection in the **User-Defined Selection** text box. 4. Click **Add**. The user-defined selection displays in the lower **Selections** list.
Delete a user-defined selection	1. Select a user-defined selection from the lower **Selections** list. 2. Click **Delete**.
Add items or selections to the **List Order** list	1. Select the **Item** or the **Selections** tab. 2. Select items or selections from the **Items** or **Selections** list. 3. Click **Add** next to the **List Order** list. The item displays in the **List Order** list. 4. Click **Save**. **Note:** If there are no more spaces in the **List Order** list, the **Add** button is disabled. Delete items or selections in the **List Order** list to add new items or selections.

Delete items or selections from the **List Order** list	1. Select the **Item** or the **Selections** tab.
	2. Select items or selections from the **List Order** list.
	3. Click **Delete** next to the **List Order** list.
	   The user-defined items or selections display in the lower **Items** or **Selections** list.
	   The pre-defined items or selections display on the upper **Items** or **Selections** list.

Rearrange items or selections	1. Select items or selections from the **List Order** list. 2. Click **Move Up** or **Move Down** to arrange the position of the items or selections.
Restore the factory-defined settings	▪ Click **Default** at the bottom of the screen. The system restores the factory-defined settings and also overwrites the settings that you created.

Measurement Order

(Not for use with the following exam types: OB, Early OB, Urology, Orthopedic, and EM)

Use this selection to add and delete labels and to rearrange the order in which labels appear in the Measurement Menu. The **Measurement Order** screen presents two columns of entries: **Selectable Label** on the left and **Measurement Order** on the right. Add labels from left to right or delete labels from right to left. User-defined labels initially appear on the left.

To select an imaging mode:

Note: Not for use with the following exam types: P-Vascular, C-Vascular, Penile.

▪ Roll the trackball to the down arrow for the **Mode** drop-down menu, select the required imaging mode and then press the **SET** key.

To add labels:

1. Roll the trackball to a selectable label on the left and then press the **SET** key.
   The system highlights the label.

2. Roll the trackball to the **Add** button and then press the **SET** key.
   The label is moved to the bottom of the **Measurement Order** list on the right.

3. Repeat steps 1 and 2 for other labels, as required.

To delete labels:

1. Roll the trackball to a label in the **Measurement Order** list on the right and then press the **SET** key.
   The system highlights the label.

2. Roll the trackball to the **Delete** button and then press the **SET** key.
   The label is moved to the bottom of the **Selectable Label** list on the left.

3. Repeat steps 1 and 2 for other labels, as required.

To rearrange labels:

1. Roll the trackball to one of the labels in the **Measurement Order** list on the right and then press the **SET** key.
   The system highlights the label.

2. Roll the trackball to the **Move Up** or **Move Down** button and then press the **SET** key.
   The label moves up or down one space in the list.

3. Repeat steps 1 and 2 as required to create a restructured **Measurement Order** list.

To reset labels back to factory default positions:

1. Roll the trackball to the **Default** button and then press the **SET** key.
   The system prompts you to confirm your choice.

2. Roll the trackball to the **Yes** button and then press the **SET** key to continue.

Follicle Measurement Method – Gynecology Exam

The gynecology exam **Measurement Order** screen contains an extra field for specifying the Follicle Measurement Method.

To select the Follicle Measurement Method (Gynecology exam):

1. Roll the trackball to the arrow on the right of the **Follicle Measurement Method** field and then press the **SET** key.

    The system displays a drop-down menu of available selections.

2. Roll the trackball to highlight one of the selections and then press the **SET** key.

    The highlighted selection becomes the new Follicle Measurement Method.

LV (Left Ventricle) Measurement Method – Fetal Echo Exam

The fetal echo exam **Measurement Order** screen contains an extra field for specifying the LV Measurement Method.

To select the LV Measurement Method (Fetal Echo exam):

1. Roll the trackball to the arrow on the right of the **LV Measurement Method** field and then press the **SET** key.

    The system displays a drop-down menu of available selections.

2. Roll the trackball to highlight one of the selections and then press the **SET** key.

    The highlighted selection becomes the new LV Measurement Method.

Measurement Label Display – Thyroid Exam

The thyroid exam **Measurement Order** screen contains an extra field for displaying labels for each measurement menu.

Display Item

(Not for use with the following exam types: OB, Early OB, GYN, P-Vascular, C-Vascular, Venous, Fetal Echo, Cardiac, Ped Echo, TEE)

Use this selection to control display of various items on the measurement screen and in the patient report. The **Display Item** screen is unique for each exam type.

Exam Types	Description of Unique Display Item Screen
OB, Early OB	See page 1-42
GYN	See page 1-52
P-vascular	See page 1-50
C-vascular	See page 1-49
Venous	See page 1-50
Fetal Echo	See page 1-60
Cardiac, PedEcho, TEE	See page 1-56

Selection	Option(s)	Allows you to...
Measurement Screen	---	---
Abbreviated Display of Results	on, off	Select this check box to display only labels with assigned measurement values in the Measured Results. De-select the check box to display all labels on the Measurement Menu in the Measured Results.
Hip Angle Graph (Orthopedic exam only)	on, off	Select this check box to display the sonographic hip angle graph when an Ortho exam measurement has been completed.
Report	---	---
Performing MD	on, off	Select this check box to include the Performing MD entered in the Patient Data form at the bottom of the report page.
Referring MD	on, off	Select this check box to include the Referring MD name entered in the Patient Data form at the bottom of the report page.

User-Defined Label

(Not for use with the following exam types: Urology, Orthopedic, Fetal Echo, Penile, TCD, and EM)

Use this selection to designate special measurement labels.

See also: User-Defined Label, OB and Early OB, p. 1-48

See also: User-Defined Label — Cardiac, p. 1-57

To create a user-defined label:

1. Select a user-defined label number from the drop-down list.
   Note: Not available for Doppler with the following exam types: P-Vascular, C-Vascular, GYN, and Renal.

2. Enter a label name using the keyboard:
   – For 2D-mode, enter a name in the **Label Name** text box.
   – For Doppler with GYN and Renal exams, enter a name in the **NAME** text box.
   – For Doppler with P-Vascular and C-Vascular exam types, enter a label name in the **User Defined** text box.

3. Select a required measurement method from the drop-down list.
   Note: Not available for Doppler with the following exam types: P-Vascular, C-Vascular, GYN, and Renal.

4. Repeat steps 1 through 3 for each label.
   The system prompts you to save the label.

5. When all labels have been entered, roll the trackball to the **Save** button and then press the **SET** key.

Note: For user-defined labels to appear in the Measurement Menu, you must add them to the Measurement Order list using the **Measurement Order** screen.

To delete a user-defined label:

- Click **Delete Current 2D-Mode Label** for 2D mode and repeat for each mode.
- For Doppler with P-Vascular, C-Vascular, GYN, and Renal exam types, click **Delete Label**.

   Note: User-defined labels cannot be deleted when they are added to the **Measurement Order** list.

User-Defined Formula

(For use with the following exam types only: P-Vascular, C-Vascular)

See also: Standard OB / Early OB User-Defined Formulas, p. 1-44

To create a user-defined formula:

1. From the **Measurement and Report Preset** selections for the C-Vascular or P-Vascular exam, roll the trackball to the **User-Defined Formula** button and then press the **SET** key.

   The system displays the **User-Defined Formula** screen.

2. Roll the trackball to the first field and then press the **SET** key.
3. Use the keyboard to enter up to eight characters as the name for the formula.
4. Enter the formula in the field below the formula name. Use the keyboard to enter any of the numbers and operators shown in the **Operation** box at the bottom of the screen.
5. Roll the trackball to any of the Variable Labels on the right and then press the **SET** key to include the variable in the formula.
6. Define constants by first rolling the trackball to the **Value** field to the right of the constant label letter and then pressing the **SET** key.
7. Enter a numeric value of up to eight characters, including a decimal point if required and then press the **Enter** key on the keyboard.
8. To insert a constant into a formula, roll the trackball to the appropriate letter in the **Label** column and then press the **SET** key.

   The system inserts the label letter into the formula.

   Note: You can use parentheses, but do not use spaces to separate elements in your formula. Do not delete any of the quote marks entered by the system. You can enter up to 64 characters in the formula field. To conserve space, you can assign a letter value to a constant and enter the letter into your formula instead of the full constant.

9. For additional formulas, roll the trackball to a different formula tab and then press the **SET** key. Repeat steps 2 through 8.

To delete a user-defined formula:

▪ Roll the trackball to the **Delete Formula** button and then press the **SET** key.

   The system deletes the formula for this tab.

To exit the User-Defined Formula screen:

1. To exit and save the formula, roll the trackball to the **Save** button and then press the **SET** key.

   The system informs you if there is a syntax or other error in the formula. Resolve the problem and exit again.

2. To exit and not save the formula, roll the trackball to the **Previous** button and then press the **SET** key.

   The system queries you to save changes by selecting **Yes** or discard changes by selecting **No**.

Report Tab

(For use with the following exam types only: GYN, EM)

Use this selection to add and delete tabs and to rearrange the order in which tabs display in the measurement report for the selected exam type.

To	Do This
Add tabs to a report	1. Select a tab from the **Selectable Report Tab Order** list. 2. Click **Add**. The tab is relocated to the bottom of the **Report Tab Order** list.
Delete tabs from a report	**Note:** You cannot delete the last tab in the **Report Tab Order** section. 1. Select a tab in the **Report Tab Order** list. 2. Click **Delete**. The tab is relocated to the bottom of the **Selectable Report Tab Order** list.
Rearrange tabs on a report	1. Select a tab in the **Report Tab Order** list. 2. Click **Move Up** or **Move Down**. The selection moves up or down one position in the list.

Summary

Note: Display Items for Summary and **Signature** section applies only when a new study is opened.

Summary Page 1 Tab

Selection	Option(s)	Allows you to...
Site Information	---	---
Logo	on, off	Insert an image in the **Letter Header** section.
Load	---	Select an image from the USB-compatible device.
Delete	---	Delete the selected image.
Text 1	(text entry)	Enter text to display in the **Letter Header** section.
Text 2	(text entry)	Enter text to display in the **Letter Header** section.
Text 3	(text entry)	Enter text to display in the **Letter Header** section.
Font	---	Access a dialog box to customize the display of text (for example, type, style, or size).
Display Items for Summary	---	---
Report Title	**On** **Off**	Enable or disable the **Report Title** section on the **Summary**.
Graphs	**On** **Off**	Enable or disable the **Graphs** section on the **Summary**. (Displays only in exam types that include **Graphs**.)
Image	**On** **Off**	Enable or disable the **Images** section on the **Summary**.
Summary	**On** **Off**	Enable or disable the **Summary** section on the **Summary**.
Recommendations	**On** **Off**	Enable or disable the **Recommendations** section on the **Summary**.
Signature	**On** **Off**	Enable or disable the **Signature** section on the **Summary**.

Summary Page 2 Tab

Selection	Option(s)	Allows you to...
Section Heading	---	Enter a user-defined title for each section.
Signature	---	Enter the names of the people who sign the Summary.
Add	---	Inserts the defined name into the list.
Delete	---	Remove the selected name from the list.
Reference Values	---	---
Display Adult Cardiac Reference Values	**On** **Off**	Enable or disable the display of cardiac reference values for each measured label on the **Summary**.

Customizing the Summary

To display the settings for site information and display items:

- Select the **Summary Page 1** tab.

To	Do This
Insert an image for inclusion on the summary	1. Select **Load** from the **Logo** section. The system displays a list of compatible images located in the root directory of the inserted USB-compatible storage device. 2. Select an image. The system displays the image in the **Logo** section.
Delete the image	- Select **Delete** from the **Logo** section.
Display customized text in the summary header	- Use the keyboard to enter text in the text box.
Modify the font type, style, or size	1. Select the **Font** button. 2. Select the required format and then select **OK**.

To display the settings for section headings and signatures:

- Select the **Summary Page 2** tab.

To	Do This
Change title of each item in the summary	- Delete the existing text and enter the new titles (up to 48 characters).
Add a name to the signature section in the summary	1. Enter text in the **Signature** section (up to 32 characters). 2. Click **Add**.
Select a name to display in the signature section	- Select a name from the drop-down list in the **Signature** section.
Delete a defined name	- Click **Delete**.
Display adult cardiac reference values on the Summary	- Select **On**.

Service

This selection provides the system serial number and software version number, along with password-protected service protocols. The service function allows service personnel to confirm the correct operation of the system. Exiting the Service function returns the system to imaging.

Note: Text in the **Siemens Service Software** screen is displayed in English only.

Note: When you select **Restore Factory Defaults** from the **Siemens Service Software** screen, the system restores the initial factory default settings for all values except Language and Video Format.

Stress Echo

The **Stress Echo** menu item in the system presets displays the **Maintenance** dialog box, which allows you to configure options for the optional Stress Echo feature. Options determine system behavior during acquisition, appearance of loops in the Stress Echo screen, placement of WMS (wall-motion scoring) graphics relative to the loops they represent, type of line used for creating traces, lengths of systolic duration for specific heart rates, and available protocols.

Exiting (quitting) the Stress Echo presets screen returns the system to imaging.

The Stress Echo chapter describes the setup options in detail.

See also: Stress Echo, Chapter A9, Features and Applications Reference

SieScape

Selection	Option(s)	Allows you to...
SieScape Scale	**On** **Off**	Automatically display a ruler along a frozen SieScape image.
SieScape Size	**Best Fit**, **1**, **2**, **3**, **Full Size**	Determine the scale of the SieScape image when frozen.
		Best Fit automatically scales the image to fit the window, based on the selected rotation. **Best Fit** is the default image size.
		1–3 incrementally scales the image size between **Best Fit** and **Full Size**.
		Full Size displays the full (actual) size of the image in the image area.

Contrast Agent Imaging (CAI)

Selection	Option(s)	Allows you to...
CAI Mode	**On** **Off**	Activate contrast agent imaging.
Extended Clip Duration	**5min (20fps)** **6min (15fps)** **7min (15fps)** **8min (10fps)** **9min (10fps)** **10min (10fps)** **15min (6fps)** **20min (5fps)**	Specify the duration of clip capture during contrast agent imaging.

Wireless

You can configure the ultrasound system to connect to a wireless network.

The chapter about the wireless network describes the setup options in detail.

See also: Wireless Network Selections, Chapter 5, System Reference

DICOM

You can configure the ultrasound system and connected devices (such as servers and printers) for DICOM by creating, editing, and activating aliases (DICOM configurations).

The DICOM chapter describes the setup options in detail.

See also: DICOM Connectivity Option, Chapter 3, System Reference

DIMAQ Utility

See also: Patient Data Management, Chapter C1, Features and Applications Reference

Selection	Option(s)	Description
Thumbnails	---	---
Columns	**1**, **2**, **3**, **4**	Selects the number of columns displayed in the Thumbnail screen.
Rows	**4** through **12**	Selects the number of rows displayed in the Thumbnail screen.
Printer	**None**	Selects the type of printer or storage device.
	DICOM Print, BW	**Note:** The **PC Printer**, **USB BW Printer**, or **USB Color Printer** options are available when a corresponding printer is assigned using the **Printer** item on the **Presets** screen.
	DICOM Print, Color	
	PC Printer	
	USB BW Printer	
	USB Color Printer	
Active Panel	**Thumbnails**	Display or arrange the position of the selected tabs.
	PatientInfo	
	Results	

To select the display of a tab:

- To display a panel tab, select the check box next to the name of the tab in the **Active Panel** list.
- To hide a panel tab, clear the check box next to the name of the tab in the **Active Panel** list.

To rearrange the order of annotation tabs:

1. Select the name of a panel tab in the **Active Panel** list.
2. Click **Move Up** or **Move Down** to position the tab.

Clip Capture

Selection	Option(s)	Description
Compression	**Low**	Select level of image compression and file size.
	Medium	
	High	
Trigger Type	**Time Capture**	Select clip capture over a period of seconds or heart beat cycles.
	Beat Capture	
	R-Wave Only Capture	
Chronology	**Prospective**	**Retrospective** selects a clip of previous images. **Prospective** selects a clip of succeeding images.
	Retrospective	
Time Trigger	**1**, **2**, **3**, **4**, **8***, **60***, **120***, (user-defined)*	(Available when **Time Capture** is selected for **Trigger Type**.) Specify the duration of each clip in seconds.
	5-10, **15**, **20**	(Available when **Time Capture** is selected for **Trigger Type**.) Specify the duration of each clip in minutes.
Beat Trigger	**1**, **2**, **3**, **4**, **5***, **6***, **7***, **8***, **9***, **10***, **15***, **20**, (user-defined)*	(Available when **Beat Capture** or **R-Wave Only Capture** is selected for **Trigger Type**.) Specify the duration of each clip in heart beat cycles.
R-Wave Delay	**0** to **480** in steps of 30 msec	(Available when **Beat Capture** or **R-Wave Only Capture** is selected for **Trigger Type**.) Set the capture point based on a delay beyond the R-Wave.
Acquisition Rate	**normal**	Defines the frame rate of the acquisition.
	high	

* Available when **Prospective** is selected for **Chronology**.

Network Export

You can verify selection of an existing setup, select another setup, edit an existing setup, or create a new setup for the host or export host using the system presets on the ultrasound system.

The Network Export Function chapter describes the setup options in detail.

See also: Network Export Function, Chapter 4, System Reference

Authorization

When you access the **Authorization** screen for the first time, the system prompts you to set up the administrator account.

Note: To change these selections, you must log in with an administrator account, unless otherwise noted.

Selection	Option(s)	Description
Change Password	---	---
Change	---	Displays a dialog box for changing your current password.
		Note: This selection is available for all user accounts.
Administration	---	---
Password	---	Displays a login dialog box for an administrator.
Accounts	---	---
(user defined entries)	---	Displays the defined user accounts when you log in to this screen as an administrator. You can change the settings for the selected user account.
Administrator	on, off	When enabled (selected), assigns administrator privileges to the selected user account.
Disabled	on, off	When enabled (selected), disables the selected user account.
		Note: Use this selection to reactivate a disabled user account.
Reset…	---	Displays a dialog box to reset the password for the selected user account.
Delete	---	Deletes the selected user account.
New	---	Displays a dialog box to create a new user account.
CD / DVD	---	---
Import	---	Retrieves user accounts and passwords from disk media.
Export	---	Saves user accounts and passwords to disk media.

Selection	Option(s)	Description
Authorization Policy	---	---
Login Required	on, off	When enabled (selected), requires a user account and password to access the DIMAQ integrated workstation. Selecting this option allows you to configure the **Authorization Policy** section.
		When disabled (cleared) allows all users access to the DIMAQ integrated workstation without requiring a password.
Retry Limits **Retry Period**	**Attempts** **Seconds**	When enabled (selected), causes the user account to be disabled if login attempts exceed the specified limit. An administrator must reactivate the user account.
		▪ **1** to **100** attempts in increments of 1
		▪ **1** to **5** seconds in increments of 1 second
		Note: The retry limit does not apply to administrator accounts.
Autologout (Screen Saver)	on, off	When enabled (selected), automatically logs out after the user account is inactive for the specified interval of time.
Password Expire	**Days**	When enabled (selected), requires users to change passwords after the specified expiration period.
		▪ **1** to **1,000** days in increments of 1 day
Password Policy	**Minimum Characters** **Lowercase Characters** **Special Characters** **Uppercase Characters** **Numeric Characters**	When selected (enabled), requires new passwords to conform to specified password security restrictions. Specifies the minimum number of characters a password must contain. ▪ **0** to **64** characters in increments of 1
Login Screen Message	---	---
Change	---	Allows you to use the keyboard to customize the login message for the DIMAQ integrated workstation.

Archive

Selection	Option(s)	Description
General	---	---
Study Archive History Deletion Policy	**Always Delete Study Archive History When Study is Deleted**	Select how the study archive is maintained after the study is deleted.
	Allow Delete Study Archive History after Study is Deleted	
	No Delete of Study Archive History	
Show Deleted Studies in Study Screen	on, off	Select this check box to display the studies deleted from the system in the DIMAQ integrated workstation's Study screen.
DVD	---	---
Burn Showcase to DICOM DVD	on, off	Enable or disable automatic storage of the DICOM viewer software program with DICOM-formatted data archived to disk media.

Printer

Selection	Option(s)	Description
Printer	---	---
Install	---	Installs a USB printer.
Status	---	Shows the status of the most recently assigned printer.
PC Printer	(drop-down list)	Lists the installed USB printers.
USB BW Printer	(drop-down list)	Lists the installed USB printers.
USB Color Printer	(drop-down list)	Lists the installed USB printers.

Note: To ensure images print correctly, select the name of the USB printer corresponding to each installed printer from the drop-down list.

Customizing OB and Early OB Measurements, Calculations, and Reports

Measurement and Report Preset	Description
Item & Reference Selection, Standard OB	See page 1-40
Item & Reference Selection, Early OB	See page 1-42
Display Item, Standard OB / Early OB	See page 1-42
Growth Analysis Graphs, OB and Early OB	See page 1-43
Standard OB / Early OB User-Defined Formulas: EFW Formula, MA Data, GA Data, Ratio Formula	See page 1-44
Standard OB / Early OB User-Defined Tables: MA Data and GA Data	See page 1-46
User-Defined Label	See page 1-48
Measurement Method	See page 1-23
Customize Keys	See page 1-23
General Configuration	See page 1-25
Comments Library for Report	See page 1-24
Recommendations Library	See page 1-24
Anatomy Assessment	See page 1-26

Item & Reference Selection, Standard OB

2D-Mode, M-Mode, Doppler, Ratio, and Growth Analysis Tabs

This selection allows you to edit the Measurement Item list for 2D-mode, M-mode, Doppler, ratios, and Growth Analysis.

To add or delete measurement items:

1. To add a measurement item, roll the trackball to an item in the **Selectable Label** list and then press the **SET** key.
2. Roll the trackball to the **Add** button and then press the **SET** key.

    The item is placed at the end of the **Measurement Item** list.

3. To delete a measurement item, roll the trackball to an item in the **Measurement Item** list and then press the **SET** key.
4. Roll the trackball to the **Delete** button and then press the **SET** key.

    The item is placed at the end of the **Selectable Label** list. Any author assignment to the item is retained.

To assign an author to a measurement item:

Note: For 2D-mode, M-mode, ratio, and Growth Analysis only.

1. Roll the trackball to the **Author** field to the right of the **Measurement Item** and then press the **SET** key. If the field is blank, no selections are available.
2. Roll the trackball to highlight an author and then press the **SET** key.

   The author is now assigned to the measurement item.

To add all selectable labels assigned to the same author:

Note: For 2D-mode, ratio and Growth Analysis only.

1. Under **Same Author Label All Selection**, roll the trackball to the unlabeled text box and then press the **SET** key.
2. Roll the trackball to highlight an author and then press the **SET** key.
3. Roll the trackball to the **Add** button and then press the **SET** key.

   All selectable labels assigned to this author are added to the **Measurement Item** list.

To move between pages of measurement items:

Note: For 2D-mode only.

1. Roll the trackball to the **Next** button and then press the **SET** key to access a higher page number.
2. Roll the trackball to the **Prev** button and then press the **SET** key to access a lower page number.

To select display of single or averaged measurements:

Note: This task cannot be performed with the **Ratio** and **Growth Analysis** tab.

1. For each measurement item, roll the trackball to the **Average** button (to display an average of all measurements) or the **Direct** button (to display the last measurement) and then press the **SET** key.
2. To change all measurement items on the same page, roll the trackball to the **Average** or **Direct** button in the **Same Parameter Selection All Label** section and then press the **SET** key.
3. Access each page of Measurement Items and repeat step 1 or 2.

To reset the Measurement Item list:

▪ Roll the trackball to the **Default** button and then press the **SET** key. Select **Yes** in the displayed confirmation message.

   All measurement items and author assignments are returned to factory default settings.

EFW / USMA Tab

Use this tab to select preferred authors for two EFW formulas. Both formulas display in the worksheet and the report. The EFW1 formula displays in the Measured Results when the required measurements have been made. You can also select an average USMA to be returned as measurements are made or specify that one of Hadlock's eleven regression equations be used.

For EFW1, EFW2, and USMA selections, the required measurements are listed in the associated Based Label box.

To make an EFW or USMA selection:

1. Roll the trackball to the appropriate **Author** field and then press the **SET** key.

    The system displays a pull-down menu of available authors or equations.

2. Roll the trackball to highlight an author or equation and then press the **SET** key.

Item & Reference Selection, Early OB

The Item & Reference Selections for Early OB parallel those for Standard OB. The **Ratio** tab has no system-defined ratios, but shares five user-defined ratio labels with Standard OB. The **EFW / USMA** tab is the same as for Standard OB.

Display Item, Standard OB / Early OB

The Standard OB / Early OB **Display Item** screen allows you to designate items to include on the measurement screen and in the worksheet and patient report.

Selection	Option(s)	Allows you to...
Measurement Screen	---	---
Abbreviated Display of Results	on, off	Select this check box to display only labels with assigned measurement values in the Measured Results. De-select the check box to display all labels on the Measurement Menu in the Measured Results.
Vertical Display of Doppler Measurement Results	**Systole** **Diastole** **S / D** **RI** **PI**	Select each check box to display the selection as a permanent, labeled item in the Measured Results for Doppler. De-select the check box to not display the selection in the Measured Results.
Report / Worksheet	---	---
Abbreviated Display of Results	on, off	Select this check box to display only labels with assigned measurement values in the Measured Results. De-select the check box to display all labels on the Measurement Menu in the Measured Results.
Display of Doppler Measurement Results	**Systole** **Diastole** **S / D** **RI** **PI**	Select each check box to display the selection as an item in the Doppler section of the report. De-select the check box to not display the selection in the Doppler section of the report.
Performing MD	on, off	Select this check box to include at the bottom of the report page the Performing MD entered in the patient data form.
Referring MD	on, off	Select this check box to include at the bottom of the report page the Referring MD name entered in the patient data form.

Selection	Option(s)	Allows you to...
HC / AC Measurement	---	---
HC with BPD / OFD Measurement	on, off	Automatically derive values for BPD and OFD from the HC Measurement.
AC with ATD / ASD Measurement	on, off	Automatically derive values for ATD and ASD from the AC Measurement.
Display SD / Growth Percentile	---	---
Display SD / Growth Percentile	**ON** **OFF**	Enable the display of a standard deviation for each measurement: **ON** — Displays the standard deviation (SD). **OFF** — Displays the gestational age instead of the SD.
Notice of estimated age	**OFF** **1.5SD** **2.0SD** **2.5SD** **3.0SD**	Specify the upper limit of the range for the standard deviation (SD).
Auto OB	---	---
European Auto OB	---	---
BPD Outer to Outer	on, off	When selected (checked), enables BPD outer-to-outer measurement.

Growth Analysis Graphs, OB and Early OB

Use this selection to set up growth curves for OB and Early OB exams.

Selection	Option(s)	Allows you to...
Link Files	**Manual** **Automatic**	Link files in the measurement report manually or automatically.
Customize Growth Analysis Graphs	---	---
Graph Format	**Single** **Quad**	Select **Single** to display one graph to a patient report page. Select **Quad** to display four graphs to a page. With either option, each graph displays the growth curve for a different, user-selectable growth parameter according to a user-selectable reference (author).
Graph Display	**Current** **Previous**	Select **Current** to display measurement values from the current exam only. Select **Previous** to display values from prior OB exams. **Previous** requires that the exams are available on the hard drive or CD/DVD and are linked to the current study. Select both check boxes to plot current measured results with previous measurements for a parameter on a single graph.
Graph Grid	on, off	Display vertical and horizontal lines on the graph.
Display All Measured Label	on, off	Select this check box to display all measurement values from the current exam on the **Obstetrical Growth Curve Graph** page of the patient report when **Single** is selected. De-select this check box to display only the selected measurement value.

Standard OB / Early OB User-Defined Formulas

Access a Standard OB / Early OB formula with one of the following selections from the Standard OB or Early OB Measurement and Report screen:

- **User-Defined EFW Formula**
- **User-Defined Menstrual Age**

  The following procedures abbreviate menstrual age as "MA."

- **User-Defined Growth Analysis**

  The following procedures abbreviate growth analysis as "GA."

- **User-Defined Ratio Formula**

To access a formula screen:

1. Roll the trackball to any of these choices and then press the **SET** key.
2. If the system displays a confirmation window, roll the trackball to the **OK** button and then press the **SET** key.
3. For MA Data and GA Data, roll the trackball to the **Formula** button under **Data Type** and then press the **SET** key.

The resulting formula screens are very similar. Basic formula-building rules apply to EFW, Ratio, MA Data, and GA Data formulas. Use the following procedure for all four formula types.

To create a user-defined formula:

1. Roll the trackball to the drop-down box at the upper left corner and then press the **SET** key.

   The system displays a list of numbered User-Defined formulas.

2. Roll the trackball to highlight one of the User-Defined formula numbers and then press the **SET** key.
3. In the MA Data and GA Data screens, roll the trackball to the **Known Variable Label** field and then press the **SET** key. In the Ratio Formula screen, roll the trackball to the **Label Name** field and then press the **SET** key.

   The system displays a list of labels.

4. For these three screens, roll the trackball to highlight a label and then press the **SET** key.
5. For all screens, roll the trackball to the **Reference (Author)** field and then press the **SET** key.
6. Roll the trackball to highlight an author or use the keyboard to enter the name of an author and then press the **SET** key.
7. For all screens, roll the trackball to the first field in the **Range** section and then press the **SET** key.

   Note: The **Range** section is not available for the MA Data screen when you select the Formula button under Data Type.

8.   For the GA Data screen, enter the lower limit for the measurement range in millimeters and then use the trackball and **SET** key to move the cursor to enter millimeters for the upper limit.

9.   For all screens, use the trackball and **SET** key to advance to the date area.

10. Using the trackball and **SET** key between boxes, enter the week and day for the lower limit for the age range in the boxes at the left and the week and day for the upper limit in the boxes at the right.

11. For a Ratio formula screen, enter the minimum and maximum values for the ratio between the parentheses.

12. In the GA Data formula screen, roll the trackball to the **SD Type** field and then press the **SET** key.

     A list of standard deviation types displays.

13. Roll the trackball to highlight one of the SD types and then press the **SET** key.

14. In the Result Unit section of the MA Data formula screen, roll the trackball to the **Days** button for a standard deviations formula or the **Weeks** button for a standard formula and then press the **SET** key.

15. For MA Data, GA Data, and EFW formula screens, roll the trackball to the upper right corner to select a conventional formula or a standard deviation limits formula.

16. Enter your formula in the field to the right of the equals sign (=). Use the keyboard to enter numbers and any of the operators listed in the **Operation** box at the bottom of the screen. Use the trackball and the **SET** key to select constants (see below) and variables (or values). Example: "A"*"LOG"("BPD") + "COS"("ATD") - 1.8327

     Note: You can use parentheses, but do not use spaces to separate elements in your formula. Do not delete any of the quote marks entered by the system. You can enter up to 64 characters in this field. To conserve space, you can assign a letter value to a constant and enter the letter into your formula instead of the full constant.

To define a constant for a user-defined formula:

Constant	
Label	**Value**
A	1.118303
B	↖

1.   Roll the trackball to the **Value** column parallel with the label letter to which you want to assign the value and then press the **SET** key.

     The system displays an entry field next to the label letter.

2.   Enter a numeric value of up to 60 characters, including a decimal point if required and then press the **Enter** key on the keyboard.

3.   To insert a constant into a formula, roll the trackball to position the pointer on the appropriate letter in the **Label** column and then press the **SET** key.

     The system inserts the label letter into the formula.

To delete a user-defined formula:

1. Roll the trackball to highlight one of the **User-Defined** numbers in the upper left of the screen.
2. Roll the trackball to the **Delete Current Reference** button and then press the **SET** key.

To exit a user-defined formula screen:

1. To exit and save the formula, roll the trackball to the **Save** button and then press the **SET** key.

    The system informs you if there is a syntax or other error in the formula. If necessary, resolve the problem and exit again.

2. To exit and not save the formula, roll the trackball to the **Previous** button and then press the **SET** key.

    The system queries you to save changes by selecting **Yes** or discard changes by selecting **No**.

Standard OB / Early OB User-Defined Tables

Access a Standard OB / Early OB table with one of the following selections from the Standard OB or Early OB Measurement and Report screen:

- **User-Defined Menstrual Age**

    The following procedures abbreviate menstrual age as "MA."

- **User-Defined Growth Analysis**

    The following procedures abbreviate growth analysis as "GA."

To access a table screen:

1. Roll the trackball to one of these choices and then press the **SET** key.
2. If the system displays a confirmation window, roll the trackball to the **OK** button and then press the **SET** key.
3. Roll the trackball to the **Table** button under **Data Type** and then press the **SET** key.

The resulting table screens are very similar for MA Data and GA Data. Basic table-building rules apply to both types. Use the following procedure for both table types.

To create a user-defined table:

1. Roll the trackball to the drop-down box at the upper left corner and then press the **SET** key.

    The system displays a list of numbered User-Defined tables.

2. Roll the trackball to highlight one of the User-Defined table numbers and then press the **SET** key.
3. Roll the trackball to the **Known Variable Label** field and then press the **SET** key.

    The system displays a list of labels.

4. Roll the trackball to highlight a label and then press the **SET** key.

5. Roll the trackball to the **Reference (Author)** field and then press the **SET** key.

6. Roll the trackball to highlight an author or use the keyboard to enter the name of an author and then press the **SET** key.

7. Roll the trackball to the first field in the **Range** section and then press the **SET** key.

8. Enter the lower limit for the measurement range in millimeters and then use the trackball and **SET** key to move the cursor and enter the upper limit.

9. Use the trackball and **SET** key to advance to the date area.

10. Using the trackball and **SET** key to move between boxes, enter the week and day for the lower limit for the age range in the boxes at the left and the week and day for the upper limit in the boxes at the right.

11. In the GA Data table screen, roll the trackball to the **SD Type** field and then press the **SET** key.

    A list of standard deviation types displays.

12. Roll the trackball to highlight one of the SD types and then press the **SET** key.

13. In the MA Data table screen, your result units of weeks and days are built into the table, so leave the default selection for the **Result Unit** field.

14. Create your table in the box. Use the trackball and **SET** key to move to each new field. Create additional lines by using the scroll bar.

    The first line should contain the lower limit for the variable value and the week and day for the lower limit of the date range. The last line should contain the upper limits. The table must contain an entry for every variable value between the upper and lower limits in order for the system to display a measured value in the worksheet and the patient report. For example, if you specify a range from 10.0 to 11.0, you must create a line entry for 10.0, 10.1, 10.2...11.0. If you only create entries for 10.0, 10.2, 10.4...11.0, a measured value of 10.3 will not display.

    Note: Measurements corresponding to table values that are outside the range will not be recognized. A measurement that is within the range but less than the lowest table value will only provide an MA or GA value equivalent to the lowest value. A measurement that is within the range but greater than the highest table value will only provide an MA or GA value equivalent to the highest value.

15. In the **Value** field, enter the size in mm that indicates a specific age.

16. In the **Weeks and Days** field, enter the age.

17. For MA tables, enter a number in the **SD Limits** field. The system converts the number to days for you, such as +/- 2 d.

    For GA tables, enter lower and upper limits for the value in the **Lo Limit** and **Up Limit** fields.

18. To clear contents of a cell in the table, position the cursor in the cell and then select the **Clear Cell** button.

19. To clear contents of an entire line in the table, position the cursor in the line and then select the **Clear Line** button.

20. To undo the most recent change in the table, select the **Undo** button.

To delete a user-defined table:

1. Roll the trackball to highlight one of the user-defined numbers in the upper left of the screen.

2. Roll the trackball to the **Delete Current Reference** button and then press the **SET** key.

To exit a user-defined table screen:

1. To exit and save the table, roll the trackball to the **Save** button and then press the **SET** key.

   The system informs you if there is an error in the table. Resolve the problem and exit again.

2. To exit and not save the table, roll the trackball to the **Previous** button and then press the **SET** key.

   The system queries you to save changes by selecting **Yes** or discard changes by selecting **No**.

User-Defined Label, OB and Early OB

The OB and Early OB exams share five user-defined labels for 2D-mode and another five user-defined labels for Doppler. Access a user-defined label by selecting **User-Defined Label** from the **Standard OB** or **Early OB Measurement and Report** screen.

To create a user-defined label:

1. Roll the trackball to the drop-down menu at the upper left corner of the 2D-mode or Doppler section on the **User Defined Label** screen and then press the **SET** key.

   A list of five user-defined numbers displays.

2. Roll the trackball to highlight one of the user-defined numbers and then press the **SET** key.

3. Roll the trackball to the **Label Name** field and then press the **SET** key.

4. Use the keyboard to type in a label name of up to eight characters.

5. For 2D-mode labels, roll the trackball to the **Measurement Method** field and then press the **SET** key.

   A list of measurement methods displays.

6. Roll the trackball to highlight a method and then press the **SET** key.

   The system assigns the appropriate unit of measure for the method.

7. For additional 2D-mode labels, repeat steps 2 through 6.

8. For Doppler labels, use steps 2 through 4 as required.

To delete a user-defined label:

1. Roll the trackball to the drop-down menu at the upper left corner of the 2D-mode or Doppler section on the **User Defined Label** screen and then press the **SET** key.

   A list of five user-defined numbers displays.

2. Roll the trackball to highlight one of the user-defined numbers and then press the **SET** key.

3. Roll the trackball to the **Delete Current 2D-Mode Label** or the **Delete Current Doppler Label** button and then press the **SET** key.

Customizing Vascular Measurements, Calculations, and Reports

Measurement and Report Preset	Description
Display Item, C-Vascular	See page 1-49
Display Item, P-Vascular	See page 1-50
Display Item, Venous	See page 1-50
Measurement Method	See page 1-23
Customize Keys	See page 1-23
Measurement Order	See page 1-27
User-Defined Label	See page 1-29
General Configuration	See page 1-25
Comments Library for Report	See page 1-24
Recommendations Library	See page 1-24
Anatomy Assessment	See page 1-26

Display Item — Cerebrovascular (C-Vascular)

Selection	Option(s)	Allows you to…
Measurement Screen	---	---
Abbreviated Display of Results	on, off	Select this check box to display only labels with assigned measurement values in the Measured Results. De-select the check box to display all labels on the Measurement Menu in the Measured Results.
Vertical Display of Doppler Measurement Results	**Systole** **Diastole** **S / D** **RI** **PI**	Select each check box to display the selection as a permanent, labeled item in the Measured Results for Doppler. De-select the check box to not display the selection in the Measured Results.
Report	---	---
Abbreviated Display of Results	on, off	Select this check box to display only labels with assigned measurement values in the Measured Results. De-select the check box to display all labels on the Measurement Menu in the Measured Results.
Display of Measurement Results	**%Stenosis** **Systole** **Diastole** **S / D** **RI** **PI**	Select each check box to display the selection as an item in the Doppler section of the report. De-select a check box to not display a selection in the Doppler section of the report.
Calculation Label Display	**ICA / CCA(S)** **ICA / CCA(D)**	Specify calculated ratios to display in the report.
Performing MD	on, off	Select this check box to include at the bottom of the report page the Performing MD entered in the Patient Data form.
Referring MD	on, off	Select this check box to include at the bottom of the report page the Referring MD name entered in the Patient Data form.

Display Item — Peripheral Vascular (P-Vascular)

Selection	Option(s)	Allows you to…
Measurement Screen	---	---
Abbreviated Display of Results	on, off	Select this check box to display only labels with assigned measurement values in the Measured Results. De-select the check box to display all labels on the Measurement Menu in the Measured Results.
Vertical Display of Doppler Measurement Results	**Peak Systole** **RI** **PI**	Select each check box to display the selection as a permanent, labeled item in the Measured Results for Doppler. De-select the check box to not display the selection in the Measured Results.
Report	---	---
Abbreviated Display of Results	on, off	Select this check box to display only labels with assigned measurement values in the Measured Results. De-select the check box to display all labels on the Measurement Menu in the Measured Results.
Display of Measurement Results	**Peak Systole** **RI** **PI**	Select each check box to display the selection as an item in the Doppler section of the report. De-select a check box to not display a selection in the Doppler section of the report.
Performing MD	on, off	Select this check box to include at the bottom of the report page the Performing MD entered in the patient data form.
Referring MD	on, off	Select this check box to include at the bottom of the report page the Referring MD name entered in the Patient Data form.

Display Item — Venous

The **Display Item** screen for the Venous exam presents two columns of entries:
Selectable Label on the left and **Report Label Order** on the right. Add labels from left to right, or delete labels from right to left.

To add labels:

1. Roll the trackball to a selectable label on the left and then press the **SET** key.

    The system highlights the label.

2. Roll the trackball to the **Add** button and then press the **SET** key.

    The system moves the label to the bottom of the **Report Label Order** list on the right.

To delete labels:

1. Roll the trackball to a label in the **Report Label Order** list on the right and then press the **SET** key.

    The system highlights the label.

2. Roll the trackball to the **Delete** button and then press the **SET** key.

    The system moves the label to the bottom of the **Selectable Label** list on the left.

To rearrange labels:

1. Roll the trackball to one of the labels in the **Report Label Order** list on the right and then press the **SET** key.

   The system highlights the label.

2. Roll the trackball to the **Move Up** or **Move Down** button and then press the **SET** key.

   The system moves the label up or down one space in the list.

3. Repeat steps 1 and 2 as required to create a restructured **Report Label Order** list.

To reset labels back to factory default positions:

1. Roll the trackball to the **Default** button and then press the **SET** key.

   The system prompts you to confirm your choice.

2. Roll the trackball to the **OK** button and then press the **SET** key to continue.

The **Display Item** screen for the Venous exam also provides the following selections:

Selection	Option(s)	Allows you to...
Performing MD	on, off	Select this check box to include at the bottom of the report page the Performing MD entered in the Patient Data form.
Referring MD	on, off	Select this check box to include at the bottom of the report page the Referring MD name entered in the Patient Data form.

Customizing Gynecology Measurements, Calculations, and Reports

Measurement and Report Preset	Description
Display Item	See page 1-52
Report Tab	See page 1-31
Measurement Method	See page 1-23
Customize Keys	See page 1-23
Measurement Order	See page 1-27
User-Defined Label	See page 1-29
General Configuration	See page 1-25
Comments Library for Report	See page 1-24
Recommendations Library	See page 1-24
Anatomy Assessment	See page 1-26

Display Item — Gynecology

The Gynecology **Display Item** allows you to designate items to include on the measurement screen and in the patient report.

Selection	Option(s)	Allows you to...
Measurement Screen	---	---
Abbreviated Display of Results	on, off	Select this check box to display only labels with assigned measurement values in the Measured Results. De-select the check box to display all labels on the Measurement Menu in the Measured Results.
Vertical Display of Doppler Measurement Results	**Systole** **Diastole** **S / D** **RI** **PI**	Select each check box to display the selection as a permanent, labeled item in the Measured Results for Doppler. De-select the check box to not display the selection in the Measured Results.
Report	---	---
Abbreviated Display of Results	on, off	Select this check box to display only labels with assigned measurement values in the Measured Results. De-select the check box to display all labels on the Measurement Menu in the Measured Results.
Display of Doppler Measurement Results	**Systole** **Diastole** **S / D** **RI** **PI**	Select each check box to display the selection as an item in the Doppler section of the report. De-select a check box to not display a selection in the Doppler section of the report.
Performing MD	on, off	Select this check box to include at the bottom of the report page the Performing MD entered in the Patient Data form.
Referring MD	on, off	Select this check box to include at the bottom of the report page the Referring MD name entered in the Patient Data form.

Customizing Cardiac Measurements, Calculations, and Reports

All customization for Cardiac exams is also available for Ped Echo exams. The customized settings for the Ped Echo exam are independent of the Cardiac exam.

Note: When you customize measurements and calculations for use with the Cardiac exam, the customization also applies to the TEE exam.

Measurement and Report Preset	Description
Measurement Method	See page 1-23
Customize Keys	See page 1-23
General Configuration	See page 1-25
Measurement Order	See page 1-27
Display Item	See page 1-56
User-Defined Label	See page 1-57
Comments Library for Report	See page 1-24
Recommendations Library	See page 1-24
Anatomy Assessment	See page 1-26

Measurement Order — Cardiac

Use the **Heading** tab to select and reorder headings (measurement types).

Note: Only the measurement types in the **Measurement Order** list on the **Heading** tab display on the **Display Item** screen.

Use the **Label** tab to further customize the contents (available labels) for each heading.

Heading Tab

Note: Only the Measurement types in the **Measurement Order** list on the **Heading** tab display in the **Heading** field on the **Label** tab.

To	Do This
Add a heading	1. Select the required imaging mode from the **Mode** drop-down list.
	2. Select a measurement type from the **Selectable Heading** list.
	3. Click **Add**.
	The selection is relocated to the bottom of the **Measurement Order** list.
Delete a heading	1. Select the required imaging mode from the **Mode** drop-down list,
	2. Select a measurement type from the **Measurement Order** list.
	3. Click **Delete**.
	The selection is relocated to the bottom of the **Selectable Heading** list.
Rearrange headings	1. Select the required imaging mode from the **Mode** drop-down list.
	2. Select a measurement type from the **Measurement Order** list.
	3. Click **Move Up** or **Move Down**.
	The selection moves up or down one position in the list.

Label Tab

The **Label** tab allows you to customize measurement order for guided and non-guided Cardiac measurements.

Customizing Guided Measurements

The Cubed, Teichholz, and Gibson selections are guided measurements for assessing left ventricular function.

The guided measurements present workflow patterns. Each pattern dictates a sequence of measurements. Select a pattern that best matches your workflow. Pattern 1 for each of the three guided measurement types includes all measurement labels. These measurements appear in the **Measurement Order** column on the right. Other patterns present the same sequence but with fewer measurements. Measurements not included in a pattern are listed in the **Selectable Label** column on the left. Measurements cannot be added, deleted, or rearranged for patterns.

To select a pattern for a Cardiac guided measurement type:

Note: Only the measurement types in the **Measurement Order** list on the **Heading** tab display in the **Heading** field on the **Label** tab.

1. Select the **Label** tab.
2. Select a measurement type from the **Heading** field.
   – **Cubed(2D)**
   – **Teichholz(2D)**
   – **Gibson(2D)**
   – **LV/Cubed(M)**
   – **LV/Teich(M)**
   – **LV/Gibson(M)**
3. Select a sequence of measurements (pattern) from the **Pattern** field.

   The **Measurement Order** column displays the required measurement labels and the order of display for the selected pattern.
4. Click **Save**.

Customizing Non-Guided Measurements

Note: Only the measurement types in the **Measurement Order** list on the **Heading** tab display in the **Heading** field on the **Label** tab.

To	Do This
Add a label	1. Select the **Label** tab.
	2. Select a measurement type from the **Heading** drop-down list.
	3. Select a label from the **Selectable Label** list.
	4. Click **Add**.
	The label is relocated to the bottom of the **Measurement Order** list.
Delete a label	1. Select the **Label** tab.
	2. Select a measurement type from the **Heading** drop-down list.
	3. Select a label from the **Measurement Order** list.
	4. Click **Add**.
	The label is relocated to the bottom of the **Selectable Label** list.
Rearrange labels	1. Select the **Label** tab.
	2. Select a measurement type from the **Heading** drop-down list.
	3. Select a label from the **Measurement Order** list.
	4. Click **Move Up** or **Move Down**.
	The label moves up or down one position in the list.

Display Item — Cardiac

All customization for Cardiac exams is also available for Ped Echo exams. The customized settings for the Ped Echo exam are independent of the Cardiac exam.

Note: When you customize measurements and calculations for use with the Cardiac exam, the customization also applies to the TEE exam.

The Cardiac **Display Item** allows you to designate items to include on the measurement screen and in the patient report.

Selection	Option(s)	Allows you to…
General	---	---
Default Measurement Title	**2D-Mode** **M-Mode** **Doppler**	Select which measurement type will be active when an imaging mode is entered. **Note:** Only the measurement types in the **Measurement Order** list on the **Heading** tab display on the **Display Item** screen.

2D-Mode measurement types:
- **None**
- **Simpson BP**
- **Simpson SP**
- **Mod Simpson**
- **Single Plane**
- **Bi-Plane**
- **Bullet**
- **Cubed(2D)**
- **Teichholz(2D)**
- **Gibson(2D)**
- **Mitral Valve**
- **AV / LA**
- **Aortic Valve**
- **Pulmonary Valve**
- **RV**
- **LV**
- **PISA(MR)**
- **PISA(MS)**
- **LV Mass T-E**
- **LV Mass A-L**
- **LA Vol (A-L)**
- **LA Vol (Simp)**
- **RA Vol (A-L)**
- **RA Vol (Simp)**
- **Qp/Qs**

M-Mode measurement types:
- **None**
- **LV / Cubed(M)**
- **LV / Teich(M)**
- **LV / Gibson(M)**
- **Mitral Valve(M)**
- **AV / LA(M)**
- **RV(M)**

Doppler measurement types:
- **None**
- **Mitral Valve**
- **Aortic Valve**
- **Tricuspid Valve**
- **Pulmonary Valve**
- **Pulmonary Vein**
- **AR**
- **TR**
- **PR**
- **MR**
- **PISA(MR)**
- **PISA(MS)**
- **DTI**
- **Qp/Qs**
- **Tei Index**

Selection	Option(s)	Allows you to…
Data Averaging	**Direct** **Average**	Specify whether to display the last measurement or an average of all the measurements.
HR Measurement Method	**ECG** **Doppler / M-mode**	Select the method for measuring heart rate.

Selection	Option(s)	Allows you to…
Display of Measurement Labels	**Measurement Type** **Last Used**	Activate either the last-used measurement type or the system-default measurement type when you exit and then re-enter the measurement function during a Cardiac, Ped Echo, or TEE exam.
Display AOLA	---	---
AOd/LAs	on, off	Enable display of the label.
LAs/AOd	on, off	Enable display of the label.
Default RAP	**0mmHg** **5mmHg** **10mmHg** **15mmHg** **20mmHg** **25mmHg**	Select the default value for the Right Atrial Pressure (RAP) in the Measurement Menu. You can change the value when the Cardiac measurement function is active.
Report	---	---
Performing MD	on, off	Select this check box to include at the bottom of the report page the Performing MD entered in the Patient Data form.
Referring MD	on, off	Select this check box to include at the bottom of the report page the Referring MD name entered in the Patient Data form.

User-Defined Label — Cardiac

Note: You can also customize the measurements and calculations for use with the **Ped Echo** exam.
The customization of the **Ped Echo** exam is independent of the customization of the **Cardiac** exam.

The Cardiac User-Defined Label item allows you to create up to two measurement types to include on the measurement screen and in the patient report. Each measurement type can have up to six mode-specific measurement labels (up to two labels per imaging mode: 2D-Mode, M-Mode, and Doppler).

Selection	Option(s)	Allows you to…
User-Defined1, **User-Defined2**	---	---
Heading Name	---	Enter up to eight characters to name the user-defined measurement type.
Label	---	---
2D-Mode 1 **2D-Mode 2**	**Distance** **Area** **Disk**	Enter up to three characters to name a 2D-mode measurement label and select the default measurement method.
M-Mode 1 **M-Mode 2**	**Distance** **Time** **Slope**	Enter up to three characters to name an M-mode measurement label and select the default measurement method.
Doppler 1 **Doppler 2**	**Velocity** **Time** **RI** **Acceleration** **PI Trace** **VTI**	Enter up to three characters to name a Doppler measurement label and select the default measurement method.

To access the User-Defined Label screen for Cardiac exams:

1. Press the **Presets** key on the keyboard to display the **Presets** screen and then select **M & R Configuration** on the left of the screen.

2. Select **Cardiac** from the drop-down menu in the **Measurement and Report** section of the screen.

3. Select the **User-Defined Label** button.

   The system displays the **User-Defined Label** screen for Cardiac exams.

To create a user-defined Cardiac measurement type:

1. Access the **User-Defined Label** screen for Cardiac exams.

2. Select the **User-Defined 1** tab or the **User-Defined 2** tab.

3. Roll the trackball to the **Heading Name** field and then press the **SET** key on the control panel.

4. Use the keyboard to enter up to eight characters to name the Cardiac measurement type.

5. For each measurement label:

   a. In the **Label** section, roll the trackball to a blank name field for the required imaging mode and then press the **SET** key on the control panel.

   b. Use the keyboard to enter up to three characters to name the measurement label.

   c. Roll the trackball to the drop-down menu located to the right of the name, press the **SET** key to list the mode-specific measurement methods and then use the trackball and **SET** key to select a measurement method.

6. Roll the trackball to the **Save** button at the bottom of the screen and then press the **SET** key on the control panel.

   The system saves the user-defined measurement type.

7. To exit the user-defined label screen, select the **Previous** button.

To delete a user-defined Cardiac measurement type:

1. Access the **User-Defined Label** screen for Cardiac exams.

2. Select the **User-Defined 1** tab or the **User-Defined 2** tab.

3. Roll the trackball to the **Delete Label** button and then press the **SET** key on the control panel.

   The system clears all fields.

4. Roll the trackball to the **Save** button at the bottom of the screen and then press the **SET** key.

   The system deletes the user-defined measurement type.

5. To exit the user-defined label screen, select the **Previous** button.

To delete a measurement label within a user-defined Cardiac measurement type:

1. Access the **User-Defined Label** screen for Cardiac exams.

2. Select the **User-Defined 1** tab or the **User-Defined 2** tab.

3. Roll the trackball to the name of the measurement label and then press the **SET** key on the control panel.

4. Use the backspace key to remove the name of the measurement label.

5. Roll the trackball to the **Save** button at the bottom of the screen and then press the **SET** key.

   The system deletes the measurement label.

6. To exit the user-defined label screen, select the **Previous** button.

Customizing Emergency Medicine Measurements, Calculations, and Reports

Measurement and Report Preset	Description
Measurement Method	See page 1-23
Customize Keys	See page 1-23
General Configuration	See page 1-25
Report Tab	See page 1-31
Calculation Item	See page 1-59
Display Item	See page 1-28
Comments Library for Report	See page 1-24
Recommendations Library	See page 1-24
Anatomy Assessment	See page 1-26

Calculation Item — Emergency Medicine

Use this selection to select a reference author for OB measurement labels and one or two planes for measuring bladder volume.

Selection	Option(s)	Allows you to…
General	---	---
Label	**BPD** **CRL** **GS**	(Listing of measurement labels for assignment of a reference [author].)
Author	(Drop-down menu of authors)	Assign a reference [author] to the corresponding measurement label.
Bladder Volume	---	---
Imaged transversely	on, off	Use measurements from the transverse plane.
Imaged sagitally	on, off	Use measurements from the sagittal plane.

To assign an OB reference author:

1. For each measurement label, roll the trackball to the arrow in the **Author** field and then press the **SET** key.

   The system displays a pull-down menu of reference authors for the measurement label.

2. Roll the trackball to highlight an author and then press the **SET** key.

   The system uses the selected reference author to determine an estimated menstrual age for measured results.

To reset labels back to factory default positions:

1. Roll the trackball to the **Default** button and then press the **SET** key.

   The system prompts you to confirm your choice.

2. Roll the trackball to the **OK** button and then press the **SET** key to continue.

To select planes for the Bladder Volume calculation:

▪ Roll the trackball to select one or both plane selections and then press the **SET** key.

Customizing Fetal Echo Measurements, Calculations, and Reports

Measurement and Report Preset	Description
Measurement Method	See page 1-23
Customize Keys	See page 1-23
General Configuration	See page 1-25
Display Item	See page 1-60
Measurement Order	See page 1-27
Comments Library for Report	See page 1-24
Recommendations Library	See page 1-24
Anatomy Assessment	See page 1-26

Display Item — Fetal Echo

Use this selection to control display of various items on the measurement screen and in the patient report. Also the **Display Item** screen for the Fetal Echo exam presents two columns of entries: **Selectable Label** on the left and **Report Label Order** on the right. Add labels from left to right, or delete labels from right to left.

Selection	Option(s)	Allows you to...
Measurement Screen	---	---
Abbreviated Display of Results	on, off	Select this check box to display only labels with assigned measurement values in the Measured Results. De-select the check box to display all labels on the Measurement Menu in the Measured Results.
Report	---	---
Performing MD	on, off	Select this check box to include the Performing MD entered in the Patient Data form at the bottom of the report page.
Referring MD	on, off	Select this check box to include the Referring MD name entered in the Patient Data form at the bottom of the report page.

To add labels:

1. Roll the trackball to a selectable label on the left and then press the **SET** key.

    The system highlights the label.

2. Roll the trackball to the **Add** button and then press the **SET** key.

    The system moves the label to the bottom of the **Report Label Order** list on the right.

To delete labels:

1. Roll the trackball to a label in the **Report Label Order** list on the right and then press the **SET** key.

    The system highlights the label.

2. Roll the trackball to the **Delete** button and then press the **SET** key.

    The system moves the label to the bottom of the **Selectable Label** list on the left.

To rearrange labels:

1. Roll the trackball to one of the labels in the **Report Label Order** list on the right and then press the **SET** key.

    The system highlights the label.

2. Roll the trackball to the **Move Up** or **Move Down** button and then press the **SET** key.

    The system moves the label up or down one space in the list.

3. Repeat steps 1 and 2 as required to create a restructured **Report Label Order** list.

To reset labels back to factory default positions:

1. Roll the trackball to the **Default** button and then press the **SET** key.

    The system prompts you to confirm your choice.

2. Roll the trackball to the **OK** button and then press the **SET** key to continue.

2 Documentation Devices

Documentation and Storage Devices

Controls and keys located on the ultrasound system are used to transfer images and patient reports to a documentation device or a disk drive.

- Documentation devices include a black and white printer, a color (video) printer, and a video recorder.
- Storage devices include a CD/DVD drive.

Using the CD/DVD Drive

To insert a disk into the CD/DVD drive on the ultrasound system:

1. Press the **Patient Browser** key on the keyboard to display the Study screen.
2. If the system displays the Image screen, then select the **Study Screen** button to display the Study screen.
3. Select the **Eject** button in the **Export/Import** section of the Study screen.

   The system ejects the CD/DVD tray.

4. Place the disk onto the CD/DVD tray.
5. Select the **Load** button in the **Export/Import** section of the Study screen.

   The system closes the CD/DVD tray and reads the disk.

   Note: If the CD/DVD **Status** displays **Unknown**, select **Load** again and wait until the status displays **Ready**.

To eject an inserted CD/DVD:

1. Press the **Patient Browser** key on the keyboard to display the Study screen.
2. If the system displays the Image screen, then select the **Study Screen** button to display the Study screen.
3. Select the **Eject** button in the **Export/Import** section of the Study screen.

   The system ejects the CD/DVD tray.

4. Remove the disk from the CD/DVD tray.
5. Select the **Load** button in the **Export/Import** section of the Study screen.

   The system closes the CD/DVD tray.

Storing and Retrieving System Presets and QuickSets

You can save user-defined QuickSets and system presets to a CD/DVD or a USB memory device and then retrieve the files as needed.

See also: File Type Descriptions, p. 2-6

Note: Text in the **Siemens Service Software** screen is displayed in English only.

To display the Backup/Restore screen:

1. Press the **Presets** key on the keyboard to display the **Presets** screen.
2. Select **Service** on the left of the screen.
3. Select the **Service** button to display the **Siemens Service Software** screen.
4. Delete **none** from the **Password** box and then select **OK** to display the user-configurable options.
5. Select **Backup & Restore**.
   The system displays the Backup/Restore screen.

To save system presets and/or QuickSets to a CD/DVD or a USB memory device:

1. Insert a blank disk to the CD/DVD drive or connect the USB memory device to the USB port.
2. Select **Backup** from the **Select** drop-down list.
   The system displays the **QuickSet Utility** dialog box.
3. Select the check box for each required QuickSet and then select **Next**.
   The system displays the Backup dialog box.
4. Select **CD/DVD** or **USB** to backup the user-defined data. If **USB** is selected, you can select the appropriate USB drive from the drop-down list.
5. Select the check box for each required file type and then select **Backup** in the Backup dialog box.
   Note: If a disk is absent, the system displays a message requesting insertion of a disk.

   The system displays a completion message when the process is complete.
6. Select **OK**.
7. To redisplay the image screen:
   a. Select **Home** on the Backup/Restore screen.
   b. Select **Exit** on the Siemens Service Software screen to display the **Presets** screen.
   c. Select **Cancel**.

To retrieve system presets and/or QuickSets from a CD/DVD or a USB memory device:

Note: When you retrieve system presets, the system overwrites the related settings in the system presets. When you retrieve a QuickSet, the system overwrites any existing QuickSet that has the same name.

1. Insert the disk or connect the USB memory device that contains the backup data.
2. Display the Backup/Restore screen.
3. Select **Restore**.

    The system displays a message requesting confirmation that the backup disk is inserted.

4. Select **OK** to display the Restore dialog box.
5. Select **CD/DVD** or **USB** to restore user-defined data. You can select the appropriate USB drive from the drop-down list.
6. Select the check box for each required file type and then select **Restore** to begin the restore process.
7. Select **OK** when the completion message displays.

    The system displays the QuickSet Utility dialog box.

8. To delete all QuickSets stored on the system and add new QuickSets:
    a. Select the **Clean QuickSet(s) on System** check box in the **Options** section.
    b. Select the required QuickSets in the **QuickSets – Removable Media** section.
    c. Select the **Restore** button.

        The system deletes all QuickSets stored on the system and restores the selected QuickSet(s) from the disk media.

9. To add selected QuickSets to the system without deleting existing QuickSets:
    a. Select the required QuickSets in the **QuickSets – Removable Media** section.
    b. Select the **Restore** button.

        The restored QuickSets display in the **QuickSets – System** section.

10. To exit the **QuickSet Utility** dialog box, select **Close**.

    The system displays a message that power must be cycled to the system for completion of the operation.

11. Select **OK** to restart the ultrasound system.

2 Documentation Devices

File Type Descriptions

Each file type saves a specific set of system settings.

Note: The listed file types correspond to the information stored on the system or inserted CD/DVD. For example, the **Service Image** file type is listed in the **Backup** dialog box only when service images are stored on the system.

File Type	Settings Saved
M&R User Defined	Settings from the **Measurement & Report** menu item in the system presets.
Quickset	All QuickSets stored on the ultrasound system's hard disk and the default setting (exam type or QuickSet) specified for each transducer.
Service Image	Service images from the **Service** menu item in the system presets.
Service Log	Service logs from the **Service** menu item in the system presets.
Service Test Report	Service test reports from the **Service** menu item in the system presets.
System Preset	Settings from the system presets (excludes Service information and settings accessed through **Measurement & Report**).
License Info	Licenses for software-based options.
User Defined Map	Settings from the **Modify Map** screen.

Printers

You can print images from a current examination, a patient report, CINE data, or an image retrieved from a disk.

Note: Refer to the manufacturer's user manual for proper handling and operating instructions of the printer installed on your ultrasound system.

Report Printers

⚠ **WARNING:** Accessory equipment connected to the analog and digital interfaces must be certified according to the respective EN and IEC standards (e.g., EN 60950 and IEC 60950 for data processing equipment and EN 60601-1 and IEC 60601-1 for medical equipment). Furthermore, all configurations shall comply with the system standard EN 60601-1-1 and IEC 60601-1-1. Anyone who connects additional equipment to the signal input or signal output ports configures a medical system and is therefore responsible that the system complies with the requirements of the system standard EN 60601-1-1 and IEC 60601-1-1. Siemens can only guarantee the performance and safety of the devices listed in the *Instructions for Use*. If in doubt, consult the Siemens service department or your local Siemens representative.

⚠ **WARNING:** Equipment connected to the ultrasound system and in the patient environment must be powered from a medically-isolated power source or must be a medically-isolated device. Equipment powered from a non-isolated source can result in chassis leakage currents exceeding safe levels. Chassis leakage current created by an accessory or device connected to a non-isolated outlet may add to the chassis leakage current of the ultrasound system.

⚠ **WARNING:** Non-medical grade report printers cannot be used within a patient environment.

⚠ **WARNING:** During use of a non-medical grade report printer or when a non-medical grade report printer is connected to the ultrasound system, the ultrasound system cannot in any way be in contact with a patient.

Relevant standards for some non-medical electrical equipment may have limits for enclosure leakage currents higher than required by medical standards. These higher standards are acceptable only outside the patient environment. It is essential to reduce enclosure leakage currents when non-medical electrical equipment is to be used within the patient environment. Measures for reducing leakage current include use of a medically-approved isolation transformer.

See also: Technical Description, Appendix A, Instructions for Use

The ultrasound system has printer drivers compatible with non-medical grade report printers. Siemens does not guarantee the performance and safety of any non-medical grade report printer. Non-medical grade report printers do not fulfill the following safety requirements:

- EN 60601-1-1 and IEC 60601-1-1 (Medical Electrical Equipment, Part 1: General Requirements for Safety).

- EN 60601-1-2 and IEC 60601-1-2 (Electromagnetic Compatibility of Medical Devices).

If a non-medical grade report printer is to be used with the ultrasound system, then you must ensure mitigation is provided to meet all safety requirements. It is the responsibility of the user to ensure that the ultrasound system in combination with the non-medical grade report printer complies with safety requirements.

- Always use a medically-approved isolation transformer with a non-medical grade report printer.

- Mitigate risk with regard to the Electromagnetic Compatibility of Medical Devices requirement. A non-medical grade device must be designed, manufactured, and certified to meet the same EMC (electromagnetic compatibility) requirements as the ultrasound system, or other means must ensure that the overall EMC requirements are met.

Manufacturers of Medically-Approved Isolation Transformers

Manufacturer	Web Site
Tripp Lite	www.tripplite.com
Toroid Corporation of Maryland	www.toroid.com
Dale Technology Inc.	www.daletech.com

Mitigating the Risk of Connecting a Report Printer

To fulfill EN 60601-1-1 and IEC 60601-1-1 (Medical Electrical Equipment, Part 1: General Requirements for Safety) requirements for non-medical peripheral equipment:

▪ The non-medical peripheral equipment must be approved according to any other EN or IEC standard (EN XXXXX or IEC XXXXX, e.g., equipment complying with EN 60348 and IEC 60348, EN 60950 and IEC 60950, etc.).

▪ The connection of non-medical peripheral equipment to your ultrasound system must adhere to the following conditions:

1. Connect the ultrasound system to an AC power outlet within a medically used room within the patient environment. A patient environment is defined as an area in which medical examination, monitoring, or treatment of the patient takes place. The patient environment is located 1.5 meters (1.8 meters [6 feet] in Canada and the U.S.A.) around the patient location.

2. Connect the peripheral equipment AC power cable to a medically approved isolation transformer.

3. Connect the medically approved isolation transformer to a main AC outlet either inside or outside the patient environment. The peripheral device and medically approved isolation transformer combination can be either (a) within the same room as the ultrasound system, or (b) in a non-medically used room.

For additional information and other possible combinations, please refer to the Medical Electrical Equipment Standard EN 60601-1-1 or IEC 60601-1-1, Annex BBB.7, Scenario 3c.

Note: The above information is based on current EN 60601-1-1 and IEC 60601-1-1 standards, dated 2000-12. If your country's regulatory standards for medical equipment do not correspond to EN 60601-1 and IEC 60601-1, as well as EN 60601-1-1 and IEC 60601-1-1, your local requirements may differ.

Patient Environment

See also: Connecting Peripheral Equipment, System Setup, Chapter 3, Instructions for Use

Connecting and Installing Report Printers

Report printers are either directly connected to the ultrasound system (PC printer or USB printer) or linked through a network path to the ultrasound system (network printer).

You must observe all safety precautions for connecting a non-medical device to the ultrasound system.

Note: The **SET** key on the control panel functions as a point-and-select device (similar to a computer mouse) when used with the trackball. To select an on-screen object such as a button or a check box, roll the trackball to position the pointer (cursor) on the object and then press the **SET** key on the control panel.

Prerequisites:

- For PC printers:
    - Insert the disk media with the printer driver into the ultrasound system.
    - Disconnect the PC printer from the ultrasound system
- For network printers, ensure you have the network path or URL.

To install a printer driver:

1. Insert the disk media with the printer driver.
2. Press the **Presets** key on the keyboard and then select **Printer** on the left of the screen.
3. Click **Install** and then click **Next** when the system displays the screen for installing the print driver.
4. Select **Install a Printer driver** and then click **Next**.

   The system displays a list of device drivers on the disk media.
5. Select the required printer device driver and then click **Next**.

   The system begins installing the printer device driver.

   Note: If the system displays a message, click **OK**.
6. Click **Next** when the system displays the completion message.
7. For PC printers only: Connect the USB cable from the printer to a USB port on the ultrasound system.

   Note: The system may display a message box depending on the printer manufacturer. If a message is displayed, follow the instructions in the message box.
8. Click **Next** to complete the installation.
9. Click **Close** when the system displays the completion message.

   The system displays a message to restart the system.
10. Click **Yes**.

To add a network printer:

1. Press the **Presets** key on the keyboard and then select **Printer** on the left of the screen.
2. Click **Install**.
   The system displays the screen for installing the printer driver.
3. Select **Connect to a network printer** and then click **Next**.
   The system automatically detects the available printers.
4. Select the required network printer and then click **Next**.
   If the required printer is not detected, click **The printer that I want isn't listed**.
5. Follow the instructions on the screen.
6. Click **Close** when the installation is completed.
   The system displays the message to restart the system.
7. Click **Yes**.

Confirming Installation

To confirm installation, select a printer and then print a report.

Selecting the PC Printer or USB Printer

Use the system presets to select a PC printer or a USB printer as the system's report printing device.

🗐 **Printer**

To select the PC printer or USB printer:

1. Press the **Presets** key on the keyboard and then select **Printer** on the left of the screen.
2. Select the required printer from the drop-down list for **PC Printer** or **USB Printer**.
3. Click **Save**.

   The system displays the active image screen.

Testing the PC Printer or USB Printer Installation

Test the installation of the printer by printing a report.

Note: You can perform this test without actual data in a report.

To test the PC printer or USB printer installation:

1. Press the **EXAM** key on the control panel.

   The system displays a list of exams and QuickSets.

2. Select an exam type with support for a patient report, such as **C-Vascular**.
3. Press the **Report** key on the keyboard.
4. Click **Send Report** on the lower right of the screen.

   The system sends the report to the selected printer and changes the **Send Report** button to **Cancel**.

   a. To interrupt immediately, click **Cancel**.
   b. To stop after the current page, press the **ESCAPE** key.

Video Recorders

Note: Please refer to the manufacturer's user manual for instructions on operating your video recorder.

Note: While the ultrasound system is designed to provide the highest quality of images to a documentation or storage device, image quality during playback is dependent on the video recorder and video media being used.

Video Communication Setup

Connect the video recorder cables to the DVI ports on the Input/Output panel of the ultrasound system.

To designate which video input port is connected to the video recorder cables:

1. Press the **Presets** key on the keyboard to access the system presets.
2. Select **Peripheral** on the left of the screen.
3. Select a recording device for **Device Type**.
4. Select the **Save** button to store the new settings and exit the system presets.

3 DICOM Connectivity Option

About DICOM

Note: Before using the DICOM Connectivity option, familiarize yourself with the functionality of the DIMAQ Study and Image screens.

The DICOM (Digital Imaging and Communications in Medicine) Connectivity option works in conjunction with the DIMAQ integrated workstation to provide digital image transfer using a DICOM network for both storage and printing. With the option installed, the ultrasound system is a DICOM Storage Class User and DICOM Print Class User.

Current and Previous Studies

This chapter describes studies as *current* or *previous*. The ultrasound system supports only one registered patient at a time. When you register a patient, you initiate a current study. This study remains current until you create a new study by:

- Registering a new patient after pressing the **New Patient** key
- Re-registering the current patient by clicking **New** on the Study screen

You can also end a current study without creating a new study by:

- Clicking **Close Study** on the Image screen or **Close** on the Study screen
- Shutting down the ultrasound system
- Pressing **New** on the keyboard

Use the system presets to assign functionality to the **New** key.

▤ **Customize Keys > NEW Key**

When you end a current study using any of these methods, the study becomes a previous study. A previous study remains linked to its original patient data and can be accessed from the Study screen. Original patient data cannot be changed in a previous study.

Screens

The following screens are used with DICOM and are accessed by pressing the
Patient Browser key on the keyboard:

- *Image screen* displays images for the currently selected study. When the DICOM option is installed, includes selections for sending images to DICOM printers.

  Note: In this chapter, the term "Image screen" refers to a screen within the DIMAQ feature. In other chapters of user and reference manuals, the use of "image screen" refers to a typical live image screen that displays real-time images as they are acquired.

- *Study screen* lists studies that are saved on the selected disk (Local Disk, CD/DVD, or Removable Disk). When the DICOM option is installed, includes selections for sending studies to DICOM printers and storage servers.

- *DICOM screen* displays tabs for pages that list current DICOM activity:

  - **DICOM BW Printer Layout** displays black and white images assembled according to a selected format for the **DICOM Print Queue**.

  - **DICOM Color Printer Layout** displays color images assembled according to a selected format for the **DICOM Print Queue**.

  - **DICOM Print Queue** lists images sent to the DICOM printer.

  - **DICOM Store Queue** lists images sent to the DICOM storage server.

  - **Retrieve Queue** lists studies retrieved from the Query/Retrieve server.

- *Worklist screen* displays studies stored on the worklist server for automatic entry of data on the **Patient Data** form.

- *Procedure screen* displays the **Choose Procedure** screen for selection of another procedure for the currently registered patient.

- *Live screen* displays the real-time imaging screen.

DICOM Storing and Printing

You can send images from current or previous studies to the **DICOM Store Queue** using one of the following methods:

- Send all images for a previous study directly from the Study screen.
- If the **Autostore to DICOM** setting is selected in the system presets, the system sends all images on the Image screen when a current study is closed.

You can print from current or previous studies to a DICOM printer using one the following methods:

- Assemble individual images on a printer layout page in a current or previous study.
- Print single or multiple pages of images from a printer layout page in a current or previous study.
- Send all images from a previous study directly to a printer queue from the Study screen.
- Using the following settings in the system presets, the ultrasound systems prints images when certain conditions are met:
  - If the **Print When Page Is Full** setting is selected, a page is sent to the printer queue as soon as the last image required by the page layout is added. An incomplete page is automatically sent to the printer queue when you close a current study or select another study.
  - If the **Print At End Of Exam** setting is selected, you can assemble multiple pages prior to printing, and all pages are automatically sent to the printer queue when you close a current study or select another study.

Storing Studies

The Study screen lists all current and previous studies stored on the selected device in the **Archive Source** drop-down list: **Local Disk**, **CD/DVD**, or **Removable Disk**.

You can access images from a previous study without closing the current study.

DICOM Structured Reporting

Note: DICOM structured reports are available only for Obstetrics, Gynecology, Cardiac, and Vascular exams.

The ultrasound system automatically generates a DICOM structured report (SR) for the current examination and stores the SR to the study on the system's hard disk.

Note: DICOM structured reports are not listed in the DIMAQ Image screen; you must send the SR to a DICOM device to view the report.

Use the system presets to send DICOM structured reports to DICOM devices.

▤ **DICOM**

DICOM Setup

Prerequisite: A working knowledge of Windows networking principles is necessary and beneficial for completing DICOM configuration.

Use the system presets to set up DICOM.

▤ **DICOM**

Note: DICOM configuration is disabled during a patient examination. If a patient is registered, close the study before performing DICOM configuration.

DICOM Setup requires the following information for each configured device, for example, a storage server, worklist server, or documentation device:

▪ Ultrasound system host name, alias, Application Entity (AE) title, Internet Protocol (IP) address, subnet mask, and default gateway

▪ Media type and duplex mode required for connection to the host (ultrasound system)

▪ Alias, AE title, IP address, and port number for each DICOM device

You must check the storage server for compatibility with the ultrasound system settings.

To begin DICOM Setup, connect a network cable to the Ethernet port on the input/output panel of the ultrasound system.

Use the tabs on the DICOM setup screen to configure the following devices.

Tab	Description
Local Host	Local network settings for the ultrasound system.
Storage Server	Configuration settings for the devices where patient information is stored. You can activate up to three storage servers and specify when images are saved to the server(s).
Worklist Server	Configuration settings for information system servers, for example, a hospital information system (HIS). You can configure the system to perform a search of procedures on the active worklist server.
MPPS Server	Configuration settings for the Modality Performed Procedure Step (MPPS) server that works with the worklist server to provide updates to exam status.
BW Printer Color Printer	Configuration settings for documentation devices. For example, you can specify when pages are printed and the print format.
Query/Retrieve	Configuration settings for the information server used to query and retrieve patient data.

Creating and Editing Aliases

You can create and edit aliases (DICOM configurations) for the host (ultrasound system) and other devices, for example, servers and printers.

To create or edit an alias:

1. Press **Presets** on the keyboard and then select **DICOM** on the left of the screen.
2. Select the tab for the required alias, for example, **Storage Server** or **Worklist Server**.
3. To edit an existing alias, select the alias from the server list and then click **Edit**.

   The system enables the current DICOM configuration settings for the selected alias.

4. To create a new alias, click **New**.

   The system enables the DICOM configuration settings to define a new alias.

5. Enter the required settings and then click **Apply**.

   See also: Field Descriptions for DICOM Configuration Screens, p. 3-9

6. Confirm a successful connection and valid configuration information for devices connected to the ultrasound system:
   – To verify the connection, click **Ping**.
   – To verify the connection and configuration information, click **Echo**.

7. To save all configuration changes and exit the system presets, click **Save**.

   If you changed any host configuration information, the system prompts you to restart the ultrasound system.

8. To cancel all configuration changes and exit the system presets, click **Cancel**.

Activating Aliases

You can activate existing aliases (DICOM configurations) for the host (ultrasound system) and other devices, for example, servers and printers.

To activate an existing alias:

1. Press **Presets** on the keyboard and then select **DICOM** on the left of the screen.
2. Select the tab for the required alias, for example, to activate a worklist server alias, select the **Worklist Server** tab.
3. Select the alias from the server list.
4. To activate the alias and exit the system presets, click **Apply** and then click **Save**.

Deleting Aliases

You can delete aliases (DICOM configurations) for the host (ultrasound system) and other devices, for example, servers and printers.

To delete an alias:

1. Press **Presets** on the keyboard and then select **DICOM** on the left of the screen.
2. Select the tab for the required alias, for example, to delete a storage server alias, select the **Storage Server** tab.
3. Select the alias from the server list and then click **Delete**.
4. To save changes and exit the system presets, click **Save**.

Field Descriptions for DICOM Configuration Screens

Note: Obtain the required configuration information from your network administrator.

Local Host Setup Screen

Field	Settings
Local Host	Displays the name of the configured local host system.
Show network status	When enabled (checked), the **Network** section on the Study screen indicates the status of the network connection.
Alias	Text entry to identify the configured device.
AE Title	Text entry for the application entity title.
Host Name	Text entry for the local host name.
MAC Address	Displays the Media Access Control address detected for the host
DHCP (Dynamic Host Control Protocol)	On (selected)
	Off (cleared)
Mapping Application	On (selected)
	Off (cleared)
Fixed IP address	On (selected)
	Off (cleared)
IP Address	Text entry for the Internet Protocol address of the configured device.
Subnet Mask	Text entry
Default Gateway	Text entry
Media Type	**Hardware Default**
	AUTOSELECT
	100BASETX
	10BASET
Duplex Mode	**Hardware Default**
	Half Duplex
	Full Duplex

DICOM Storage Server Setup Screen

Field	Settings
Storage Server	Displays a list of configured devices.
	You can activate up to three storage servers.
	Note: The selected servers in this list are displayed in the server list on the Image screen.
Uses Commitment	Select this check box if the storage server is configured for the DICOM service "storage commitment."
Alias	Text entry to identify the configured device.
AE Title	Text entry for the application entity title.
IP Address	Text entry for the Internet Protocol address of the configured device.
Port Number	Text entry for the network port that the configured device uses to communicate with the ultrasound system.
Ping and Echo Timeout in seconds	Text entry for the timeout value used by basic communication tests with the host.
Autostore to DICOM	Specifies when images are queued for transfer to the storage server:
	▪ **Store During Exam** adds each image to the **DICOM Store Queue** when you store the image to the study.
	▪ **Store At End Of Exam** adds all images to the **DICOM Store Queue** when you close the study.
Send fourSight TEE clips to the DICOM server	Specifies each angle of the *four*Sight TEE clips to display and send to the DICOM server.
After Every Image is Stored	Sends notification to the storage commitment server when each image is stored.
	On (selected)
	Off (cleared)
After All Images are Stored	Sends notification to the storage commitment server after all images are stored.
	On (selected)
	Off (cleared)
Number of Times to Retry Failure	Text entry
Seconds Between Each Retry	Text entry
Write Timeout in Seconds	Text entry for the timeout value for sending data to the queue.
Connect Timeout in Seconds	Text entry for the timeout value for attempted connections between the host and the server.
Send SR	**Note:** Available only for Cardiac, Vascular, and OB/EOB exams.
	When enabled (checked), includes the structured report when sending the study to this device.
	On (checked)
	Off (cleared)

Field	Settings
Image Format	Specifies the DICOM format used to transfer images to the storage server.
	Note: Calibration information is included only with the "New Ultrasound" format.
	▪ **Automatic** specifies the highest quality format that is supported by the server: "New Ultrasound," "Old Ultrasound," or "Secondary Capture" (listed in sequence from highest quality to lowest quality).
	▪ **Old Ultrasound** specifies the highest quality format that is supported by the server: "Old Ultrasound" (highest quality) or "Secondary Capture" (lowest quality).
	▪ **Secondary Capture** specifies the "Secondary Capture" format. The "Secondary Capture" format does not support clips.
No Monochrome conversion	Disables monochrome conversion for gray scale images and clips stored on the storage server.
Store grayscale images as Monochrome	Converts gray scale images (stored on the storage server) to monochrome format.
	Note: The system adds the DICOM attributes for "window" and "level" information to monochrome-formatted images.
Store grayscale images and clips as Monochrome	Converts gray scale images and clips (stored to the storage server) to monochrome format.
	Note: The system adds the DICOM attributes for "window" and "level" information to monochrome-formatted images.
Store all images as Monochrome	Stores all images on the storage server in monochrome format.
Store all images and clips as Monochrome	Stores all images and clips on the storage server in monochrome format.

Worklist Server Setup Screen

Field	Settings
Worklist Server	Displays a list of configured devices.
Alias	Text entry to identify the configured device.
AE Title	Text entry for the application entity title.
IP Address	Text entry for the IP address of the configured device.
Port Number	Text entry for the network port that the configured device uses to communicate with the ultrasound system.
Ping and Echo Timeout in Seconds	Text entry for the timeout value for basic communication tests with the host.
Streamlined Search	(Applies to all configured worklist servers) When enabled, the system searches all procedures on the Worklist server for the next 24 hours. **Note:** If you perform a streamlined search from the patient data form, the system uses data entered on the form to narrow the search. On (checked) Off (cleared)
Strict Verification	(Applies to all configured worklist servers) When enabled, the system verifies the DICOM standard tags on each study list retrieved from the worklist server. On (checked) Off (cleared)
Maximum number of worklist item	Text entry for the maximum number of search results to display.
Write Timeout in Seconds	Text entry for the timeout value for sending data to the queue.
Connect Timeout in Seconds	Text entry for the timeout value for attempted connections between the host and the server.

DICOM Modality Performed Procedure Steps (MPPS) Server Setup Screen

Field	Settings
MPPS Server	Displays a list of configured devices.
Alias	Text entry to identify the configured device.
AE Title	Text entry for the application entity title.
IP Address	Text entry for the Internet Protocol address of the configured device.
Port Number	Text entry for the network port that the configured device uses to communicate with the ultrasound system.
Ping and Echo Timeout in seconds	Text entry for the timeout value for basic communication tests with the host.
Number of Times to Retry Failure	Text entry
Seconds Between Each Retry	Text entry
Write Timeout in Seconds	Text entry for the timeout value for sending data to the queue.
Connect Timeout in Seconds	Text entry for the timeout value for attempted connections between the host and the server.
Store Image Format	**Note:** Calibration information is included with the "New Ultrasound" format only. ▪ **New Ultrasound** specifies the highest quality format that is supported by the server: "New Ultrasound," "Old Ultrasound," or "Secondary Capture" (listed in sequence from highest quality to lowest quality). ▪ **Old Ultrasound** specifies the highest quality format that is supported by the server: "Old Ultrasound" (highest quality) or "Secondary Capture" (lowest quality). ▪ **Secondary Capture** specifies the "Secondary Capture" format.

DICOM Printer Setup Screen

Note: Both the **Color Printer** and **B/W Printer** tabs list these fields.

Field	Settings
Alias	Text entry to identify the configured device.
AE Title	Text entry for the application entity title.
IP Address	Text entry for the Internet Protocol address of the configured device.
Port Number	Text entry for the network port that the configured device uses to communicate with the ultrasound system. **Note:** If a separate computer controls the printer, the port number may differ from the port number used for the host and storage server.
Ping and Echo Timeout in Seconds	Text entry for the timeout value used by basic communication tests with the host.
Number of Times to Retry Failure	Text entry
Seconds Between Each Retry	Text entry
Write Timeout in Seconds	Text entry for the timeout value for sending data to the queue.
Connect Timeout in Seconds	Text entry for the timeout value for attempted connections between the host and the DICOM printer.
Orientation	**Portrait**
	Landscape
Display Format	Defines the column and row format used for assembling pages to print **Note:** Verify that the selected format is supported by the destination printer. **1x1** **1x2** **2x2** **2x3** **3x2** **3x3** **3x5** **4x5** **4x6** **5x6**
Copies	Text entry for the number of copies to print.

Field	Settings
Film Size	**8in x 10in**
	8.5in x 11in
	10in x 12in
	10in x 14in
	11in x 14in
	11in x 17in
	14in x 14in
	14in x 17in
	24cm x 24cm
	24cm x 30cm
	A3
	A4
more…	---
Medium Type	**Paper**
	clear film
	blue film
	transparency
	Current
Min. Density	**Note:** Consult the printer manufacturer for appropriate values.
	Text entry
Max. Density	**Note:** Consult the printer manufacturer for appropriate values.
	Text entry
Border Density	Defines the region outside of the print area on the output medium; typically black for film and white for paper.
	Black
	White
Trim	When selected, outlines each printed image with a box.
Print Priority	**high**
	medium
	low
Film Destination	**magazine**
	processor
	current
Magnification	**replicate**
	bilinear
	cubic
	none
Smoothing Type	**Note:** This field is not required.
	Text entry used with cubic magnification.

Field	Settings
Empty Image Density	**Black** (typically used for transparencies)
	White (typically used for paper)
Polarity	**normal**
	reverse
Configuration	**Note:** This string is sent to the printer exactly as it displays in this field. This field is not required.
Print When Page is Full	On (checked)
	Off (cleared)
Print At End of Exam	On (checked)
	Off (cleared)

Query/Retrieve Screen

Field	Settings
Alias	Text entry to identify the configured device.
AE Title	Text entry for the application entity title.
IP Address	Text entry for the Internet Protocol address of the configured device.
Port Number	Text entry for the network port that the configured device uses to communicate with the ultrasound system.
	Note: If a separate computer controls the printer, the port number may differ from the port number used for the host and storage server.
Ping and Echo Timeout in Seconds	Text entry for the timeout value for basic communication tests with the host.
Number of Times to Retry Failure	Text entry
Seconds Between Each Retry	Text entry
Write Timeout in Seconds	Text entry for the timeout value for sending data to the queue.
Connect Timeout in Seconds	Text entry for the timeout value for attempted connections between the host and the server.

DICOM Storing and Printing

You can store and print images to DICOM devices.

Configuring Clip Options for DICOM

Use the system presets to configure clip options, for example, length and acquisition timing (retrospective or prospective).

▤ **Clip Capture**

Consider the following issues when storing multiple clips to DICOM devices:

- Multiple, longer clips can require considerable storage server memory and transfer time.
- High compression requires less storage server memory and transfer time.
- The number of clip frames in a clip is determined by two parameters: the duration, which is selected in the system presets, and the number of clip frames to acquire per second.

Configuring the System for In-Progress Store

When the system is configured for in-progress store and you press a documentation key that is configured for disk storage, the system stores the image or report to the DICOM storage server and to the system's hard disk.

To configure the system for in-progress store:

1. Press **Presets** on the keyboard to display the system presets and then select **DICOM** on the left of the screen.
2. Select the **Storage Sever** tab and select the alias from the server list.
3. Select the **Autostore to DICOM** check box and then select **Store During Exam**.
4. Click **Save** to save the settings.

Storing Images to DICOM Storage Servers

You can send selected studies to a connected DICOM storage server.

You can also automatically send stored images during the current study when the system is configured for in-progress store.

To send studies to a connected DICOM storage server:

Note: The selected studies must be stored on the hard disk.

1. Press **Patient Browser** on the keyboard.
2. Click **Study Screen**, if necessary.
3. Select **Local Disk** in the **Archive Source** drop-down list on the Study screen.
4. Select one or more studies.
    –   To select consecutive studies in the list, select the first required study, press and hold the **Shift** key on the keyboard, and then select the last study to send to the server.
    –   To select non-consecutive studies, press and hold the **Ctrl** key on the keyboard and then select each study to send to the server.
5. Select **DICOM Store** from the drop-down list in the **Network** section.
    Note: **DICOM Store** is displayed only when the storage servers are defined in the system presets.
6. Click [**…**] to display a list of configured storage servers.
7. Select up to three storage servers and then click **OK**.
    The system displays the selected storage servers in the **Network** section.
8. Click **Send**.
    The system sends all images from the selected studies to the **DICOM Store Queue**.
9. To verify the status of the **DICOM Store Queue**, click **DICOM Screen** and then select the **DICOM Store Queue** tab.

Printing Images to DICOM Printers

You can send an image to a connected DICOM printer during the current study. You can also print all images or selected images from a study to a connected DICOM printer.

Note: The current number of images and the number of images necessary for each full-page layout display in the lower left of the live image screen.

To send an image to a printer layout page during the current study:

1. Freeze the image.
2. Press the documentation key that is configured in the system presets for DICOM printing.

    The system saves the image to the system's hard disk and copies the image to the Image screen and to the corresponding layout page.

3. Press **Patient Browser** on the keyboard.

    The system displays the print image and any other images in the Image screen.

4. Select additional images from the Image screen for the printer layout, if necessary.

    The system displays an outline around each selected image.

5. Click **BW Print** or **Color Print** on the Image screen to copy the selection to the respective printer layout page.

    Note: The Image screen displays the current number of images and the images required for a full-page layout display next to the **BW Print** or **Color Print** button.

6. The print image is transferred to the **DICOM Print Queue** when one of the following actions occurs:

    – The **DICOM BW Printer Layout** or **DICOM Color Printer Layout** page is filled and **Print When Page Is Full** is selected in the system presets for DICOM.

       Note: The **Display Format** setting for the printer determines the number of images in a full page. If display format for a printer is set to "1/1," a page fills and is sent to the **DICOM Print Queue** immediately with each press of a documentation key configured for DICOM printing.

    – The **Print Page** or **Print All Pages** button is selected in the layout page.

    – The study is closed or a previous study is selected and **Print At End of Exam** is selected for this printer in the DICOM system presets.

    The print queue displays a separate entry for each page.

7. To verify the status of the **DICOM Print Queue**, click **DICOM Screen** on the Study screen and then select the **DICOM Print Queue** tab.

8. To change printing options for a set of printed images, click **DICOM Screen** on the Study screen, select the **DICOM BW Printer Layout** or **DICOM Color Printer Layout** tab, and then click **Change**.

To print all images from one or more studies to a DICOM printer:

Note: The studies must be stored on the hard disk.

1. Press **Patient Browser** on the keyboard and then click **Study Screen**, if necessary.
2. Select **Local Disk**, **CD/DVD**, or **Removable Disk** in the **Archive Source** drop-down list.
3. Select one or more studies.
   – To select consecutive studies in the list, select the first required study, press and hold the **Shift** key on the keyboard, and then select the last study to send to the server.
   – To select non-consecutive studies, press and hold the **Ctrl** key on the keyboard and then select each study to send to the server.
4. Select the printer from the drop-down box in the **Network** section on the lower right of the Study screen and then click **Send**.
   The system sends all images from the selected studies to the corresponding layout page(s) and to the printer queue.
5. To confirm that the study was sent to the printer, click **DICOM Screen** and then select the **DICOM Print Queue** tab.
   The system lists the studies that were sent to the printer.

To print individual images from a study to a DICOM printer:

Note: The studies must be stored on the hard disk.

1. Press **Patient Browser** on the keyboard and then click **Study Screen**, if necessary.
2. Select **Local Disk**, **CD/DVD**, or **Removable Disk** in the **Archive Source** drop-down list.
3. Select a study from the Study screen.
4. Click **Image Screen**.
   The system displays all images from the selected study in the Image screen.
5. Select the required image to print.
6. Click **BW Print** or **Color Print** to send the image to the layout page.
7. To send the layout page(s) to the **DICOM Print Queue**:
   a. Click **Study Screen** and then click **DICOM Screen**.
   b. Click **Print Page** or **Print All Pages** on the **DICOM BW Printer Layout** or **DICOM Color Printer Layout** page.
   Note: If a layout page becomes full and **Print When Page is Full** is selected in the DICOM system presets, the system automatically sends the page to the **DICOM Print Queue**. If **Print At End of Exam** is selected in the DICOM system presets, multiple layout pages can be assembled prior to printing. With either selection, all pages are sent to the **DICOM Print Queue** when the current study is closed.

Arranging Printer Layout Pages

Use the printer layout pages to assemble images for printing on the same page.

To delete an image from a printer layout page:

Note: A deleted print image is removed from the printer layout page only. The image remains on the system's hard disk as a part of the study and is displayed in the Image screen.

1. Click **DICOM Screen** on the Study screen.
2. Select the **DICOM BW Printer Layout** or **DICOM Color Printer Layout** tab.
3. Select an image on the layout page.

   The system displays a blue outline around the selected image.

4. Click **Delete** on the layout page.

   The system removes the selected image from the layout page.

To rearrange print images:

1. Click **DICOM Screen** on the Study screen.
2. Select the **DICOM BW Printer Layout** or **DICOM Color Printer Layout** tab.
3. Select an image on the layout page.

   The system displays a blue outline around the selected image.

4. Click **Cut**.

   The system displays a yellow outline around the image. The image remains in place until you complete the paste operation.

5. Select another image as the paste location.
6. Click **Paste**.

   The system inserts the cut image in the paste location and displays a blue outline around the image.

7. To rearrange images across pages:
   a. Select an image and then click **Cut**.
   b. Click **Next** or **Previous** to select a different page.
   c. Select a new paste location and then click **Paste** to insert the image in the paste location on the new page.

Queue Status Indicators

Queue Status	Description
Queued	The queue entry has been received by the currently displayed queue. The system has not yet initiated the print/store operation.
Succeeded	The system successfully completed the print/store operation.
In Progress	The system is currently completing the print/store operation.
Suspended	Reserved for future use.
Failed	The system attempted to complete the print/store operation but timed out. If retries are still available, the system displays the number of remaining retries in parentheses (for example, "Failed (2)" indicates two remaining retries).
	The system continues attempts indefinitely if the TCP/IP connection to the destination device cannot be initiated (for example, if the ultrasound system is temporarily located away from network connections). If the TCP/IP connection can be initiated, the system stops attempts when retries are no longer available.
	Note: If this status indicator remains and no more retries are available, ensure that the system presets settings for the connected devices are complete and compatible and then click **Retry Job**.

To delete jobs:

▪ Select the jobs in Queue screen and then click **Delete Job**.

4 Network Export Function

About the Network Export Function

The network export function facilitates the transfer of images, clips, and summaries (patient studies) from the ultrasound system to a shared folder on a destination computer, such as a workstation, server, or personal computer.

Note: The system only transfers summaries that were accessed during the active study.

To avoid file conflicts, move the transferred studies from the shared folder on the export host before using the files.

Configuring the Network Export Function

Prerequisite: A working knowledge of Windows networking principles is necessary and beneficial for completing configuration of the network export function.

Configuring the network export function involves setting up the export host and then defining the host and the export host settings on the ultrasound system.

Setting Up the Export Host

The **export host** is the destination for the shared files. Examples of export hosts are off-line workstations, servers, and personal computers.

The export host must meet the following prerequisites:

- Windows 2000 or later operating system
- Compatible remote share access
- Ethernet card that supports TCP/IP

To set up the export host:

Note: For detailed instructions, refer to the user manual for the operating system on the workstation (export host).

1. On the export host, create a shared folder and specify security access settings as required.
2. Locate the following information on the export host and write the information down. This information will be used to define the host and the export host settings on the ultrasound system.

   Note: If the export host uses DHCP (Dynamic Host Configuration Protocol), then the IP address may change frequently. Each time the IP address changes, you must reconfigure the system presets on the ultrasound system with the new IP address.

   - Shared folder name
   - Computer name (if defined by the export host)
   - IP address
   - Subnet mask (not required if using DHCP)
   - Gateway (not required if using DHCP)
   - Account and password used to log onto the export host, including domain name (if applicable)
   - Media type and duplex mode required for connection

3. To connect the export host directly to the ultrasound system, use a cross-over ethernet cable.

4. To connect the export host to the ultrasound system through a hub or switch, use a standard ethernet cable.

Defining and Deleting Settings for the Host and the Export Host

You can define the settings for the host and the export host. You can also delete existing host and export host configurations.

The *host* is the ultrasound system. The *export host* is the destination for the shared files. Examples of export hosts are off-line workstations, servers, and personal computers.

Use the system presets to access the setup screens and define and delete the settings for the host and the export host.

▤ **Network Export**

Accessing the Setup Screens

You can access the **Host Setup** screen and the **Export Host Setup** screen.

To access the Host Setup screen:

1. Press the **Presets** key on the keyboard to display the system presets and then select **Network Export** on the left of the screen.

    The system displays the **Network Export** screen.

2. To define a new host configuration, select the **New** button on the right of the **Host** line.

3. To edit an existing host configuration, select the configuration from the **Host** drop-down list and then select the **Edit** button on the right of the **Host** line.

To access the Export Host Setup screen:

1. Press the **Presets** key on the keyboard to display the system presets and then select **Network Export** on the left of the screen.

    The system displays the **Network Export** screen.

2. To define a new export host configuration, select the **New** button on the right of the **Export Host** line.

3. To edit an existing export host configuration, select the configuration from the **Export Host** drop-down list and then select the **Edit** button on the right of the **Export Host** line.

Defining the Host and the Export Host Settings

You can define the settings for the host and the export host.

See also: Setting Up the Export Host, p. 4-3

See also: Fields in the Setup Screens, p. 4-6

To define the host and the export host settings:

Prerequisite: Before configuring the system presets on the ultrasound system, you must set up the export host.

1. Access the **Host Setup** screen and use the keyboard to enter values for the fields on the screen.
2. Select the **OK** button to save the changes.
3. Access the **Export Host Setup** screen and use the keyboard to enter values for the fields on the screen.
4. To verify successful connection to the export host, select the **Ping** button.
5. To test writing to the specified shared folder, select the **Test Write** button.

   Note: If connection is successful, but writing is not, then complete this procedure and test the writing again. A successful writing test may require cycling the power to the system (rebooting the system).

6. Select the **OK** button to save the changes.

   Note: You must also select the **Save** button on the **Network Export** screen to store all the configuration changes.

   The system redisplays the **Network Export** screen.

7. Ensure that the required host and the required export host are activated: Select the host configuration from the **Host** drop-down list and select the export host configuration from the **Export Host** drop-down list. For example, to activate the "archive1" export host configuration, select "archive1" from the **Export Host** drop-down list.
8. Select the **Save** button at the bottom of the **Network Export** screen to save all configuration changes.
9. Cycle power to the ultrasound system.
   a. From the live image screen, power off (⏻) the ultrasound system.
   b. Wait approximately 20 seconds before powering on (⏻) the ultrasound system.

Deleting the Host and the Export Host Settings

You can delete existing configurations containing host or export host settings.

To delete a configuration:

▪ Select the configuration from the related drop-down list (such as the **Export Host** drop-down list), select the **Delete** button to the right of the selected alias, and then select **OK** to confirm.

Fields in the Setup Screens

Fields in the Host Setup Screen

Field	Description
Alias	User-designated name for host.
AE Title	Application Entity Title as configured for DICOM.
	Note: Disregard this field. The system automatically populates this field if the ultrasound system is configured for DICOM. Otherwise, the system does not use this field.
Host Name	User-designated name for host (you can use the value entered for **Alias**)
MAC Address	Indicates the Media Access Control (MAC) address detected for the host (this field is display only).
DHCP	When checked (enabled), activates Dynamic Host Control Protocol for the host (ultrasound system).
	Note: Do not configure the host to use DHCP if DICOM is installed. DHCP is not compatible with DICOM.
Mapping Application	Supports communication through a direct LAN connection. When selected (enabled), displays the IP address of the ultrasound system.
Fixed IP Address	When selected (enabled), activates fields for entering a fixed IP address for the host (ultrasound system).
IP Address	IP address for the host (ultrasound system).
Subnet Mask	Subnet mask for the host (ultrasound system). Typically identical to the subnet mask for the export host.
Default Gateway	Default gateway for the host (ultrasound system). Typically identical to the default gateway for the export host.
Media Type	**HardwareDefault**
	AUTOSELECT
	100BASETX
	10BASET
Duplex Mode	**HardwareDefault**
	HalfDuplex
	FullDuplex

Fields in the Export Host Setup Screen

Field	Description
Alias	System-defined "computer name" or user-defined name for the export host.
IP Address	IP address of the export host.
	Note: If DHCP is used for the export host, then reconfigure this field when the IP address changes.
Shared Folder	Exact name of the shared folder on the export host, following standard MS Windows conventions for specifying access.
	Note: Disregard this field if **Export to PACS** is enabled.
Account	Account name used to log on to the export host.
	Examples:
	"archive1\jsmith" ("computer name" and user name for local account on export host)
	"jsmith" (user name for local account on export host)
	"domain1\jsmith" (domain and user name)
Password	Password used to log on to the export host, if applicable.
	Note: This field is case sensitive. The system indicates the status (on/off) of the **Caps Lock** key on the keyboard on the right of the screen.
Ping and Echo Timeout in seconds	Time limit (in seconds) for confirming a successful connection.
Ping	Confirm successful connection.
Test Write	Attempt storing "test" files to the export host.

Sending Studies to the Export Host

You can send studies from the system's hard disk to the selected, configured export host. You can also automatically send a study to the export host when the study is closed and automatically indicate the status of the network connection.

Note: Before using the transferred studies on the export host (destination device), move the studies from the shared folder to avoid file conflicts.

Use the system presets to select and configure the export host, to automatically send studies to the export host as they are closed, and to automatically indicate the status of the network connection.

🗐 **Network Export**

To send one or more studies to the export host:

Note: If you send a study that already exists on the export host, then the system overwrites the existing study.

Note: Studies to be sent to the network must be closed.

1. Press the **Patient Browser** key on the keyboard to display the Study screen.
2. If the system displays the Image screen, then select the **Study Screen** button to display the Study screen.

   The system displays the Study screen.
3. Ensure that **Local Disk** is selected in the **Archive Source** section of the Study screen.
4. Select one or more studies for export.
5. In the **Network** section of the Study screen, select the export host from the drop-down list and then select **Send**.

   The system indicates successful transfer by displaying **Network** in the **Archived** column listed on the Study screen. The system indicates unsuccessful transfers by displaying errors.

To automatically send a study to the export host as the study is closed:

1. Press the **Presets** key on the keyboard to display the system presets.
2. Select **Network Export** on the left of the screen to display the **Network Export** screen and then select the **Autostore to Network** check box located under the export host line.

   The system automatically sends each study to the export host when the study is closed.

To automatically indicate the status of the network connection:

1. Press the **Presets** key on the keyboard to display the system presets.
2. Select **Network Export** on the left of the screen to display the **Network Export** screen and then select the **Show network status** check box located under the host line.

   The system automatically indicates the status of the network connection in the **Network** section of the Study screen.

Configuring Export Selections

Use the system presets to select the study data to send to the export host.

Images, clips, and summaries are exported to a shared folder on the export host. The folder is labeled with the patient identification and the date and time of the study (using the format of year, month, day and hours, minutes, seconds).

Note: The date format used to name the study folders is unrelated to the date format set in the system presets.

To select the study data to export:

1. Press the **Presets** key on the keyboard and then select **Network Export** on the left of the screen.

    The system displays the **Network Export** screen.

2. In the **Export Format** section, select the images and clips saved with a study to export.

    – To export all images and clips as .jpg and .avi files into the same folder, click **Export all Images/Clips**.

    – To export only selected images and clips as .jpg and .avi files into the same folder, click **Export selected Images/Clips**.

    – To export all images and clips as .tif and .avi files with a calibration (.cal) file into separate folders, click **Export Legacy Format**.

       A calibration (.cal) file for video format and pixel spacing is exported into the images folder with the images.

3. To export the summaries as .pdf and .rtf files with the exported images and clips, click **Export pdf/rtf**.

    If **Export Legacy Format** is selected, the summaries and reports are stored in the reports folder.

4. Click **Save**.

5 Wireless Network Selections

Wireless Network Selections

Use the system presets to enable and disable a wireless network adapter connected to the ultrasound system. You can require a password to prevent unauthorized changes to the wireless network selections.

▤ **Wireless**

Selection	Option(s)	Allows you to...
Wireless Network	**Enabled**	Activate or deactivate wireless connectivity.
	Disabled	
	(available selections)	Select a wireless adapter that is connected to the ultrasound system.
	[…]	Update the list of wireless adapters that are connected to the ultrasound system.
Network Settings	**Available Network List**	Select a wireless network for the ultrasound system to use.
	New	Access the **Network Profile Settings** dialog box to configure the network profile. The ultrasound system uses the network profile to connect to the selected wireless network.
	Edit	
		See also: Network Profile Settings, p. 5-4
	Connect	Connect to the selected wireless network.
	Disconnect	Disconnect from the selected wireless network.
	Scan	Refresh the list of available wireless networks.
Connection Information	---	---
SSID (Service Set Identification)	---	View the name of the connected wireless network.
Signal Strength	---	View the strength of the connection to the wireless networks: ▪ 86 to 100 (Strong) ▪ 51 to 85 (Good) ▪ 26 to 50 (Weak) ▪ 1 to 25 (Poor) ▪ 0 (No Signal)
Link Speed	---	View the speed of the wireless network connection.
Refresh	---	Update the information of the connected wireless network.
Properties	---	Access the **Internet Protocol Properties** dialog box to enter the IP address and the DNS (Domain Name System) server address for the selected wireless network. **See also:** Internet Protocol Properties, p. 5-5
Lock	---	Enable and disable password protection to restrict changes to the wireless network options.

Network Profile Settings

▤ **Wireless > Network Settings > New**

▤ **Wireless > Network Settings > Edit**

Selection	Option(s)	Allows you to...
Network Name (SSID)	(text entry)	Enter the name of a wireless network.
Non-broadcast network	on, off	Configure the network profile for a wireless network that broadcasts its name (off) or does not broadcast its name (on).
Security Type	**OPEN** **Shared** **WPA** **WPAPSK** **WPA2** **WPA2PSK**	Specify the network security method for the connection to a wireless network. **Note:** The options for the security method are dependent on the wireless network.
Encryption Type	**None** **WEP** **TKIP** **AES**	Select the encryption method for the connection to a wireless network. **Note:** The options for the encryption method are dependent on the wireless network.
Security Key	(text entry)	Enter the security key for the connection to a wireless network.
EAP Authentication	---	---
		Note: EAP authentication options are enabled only when you select **WPA** or **WPA2** for the security type.
EAP Type	**PEAP**	Select the EAP (Extensible Authentication Protocol) authentication method for the connection to a wireless network. **Note:** The options for the EAP authentication method are dependent on the wireless network.
Username	(text entry)	Specify the user name for EAP (Extensible Authentication Protocol) authentication.
Password	(text entry)	Specify the password for EAP (Extensible Authentication Protocol) authentication.

Internet Protocol Properties

⊞ **Wireless > Connection Information > Properties**

Selection	Option(s)	Allows you to...
Obtain an IP address automatically (DHCP)	on, off	Configure the ultrasound system to use dynamic IP addresses assigned by a DHCP (Dynamic Host Configuration Protocol) server (on) or to use a static IP (Internet Protocol) address (off).
Use the following IP address	---	---
IP Address	(text entry)	Specify a static IP address.
Subnet Mask	(text entry)	Specify the subnet mask for a LAN (Local Area Network).
Default Gateway	(text entry)	Specify the gateway for the LAN.
Obtain DNS server address automatically	on, off	Configure the ultrasound system to use the address of the DNS (Domain Name Server) sent by the DNS service (on) or to use the address specified in the **Use the following DNS server address** selection.
Use the following DNS server address	---	---
Preferred DNS Server	(text entry)	Configure the ultrasound system to use the DNS address.

Configuring a Connection to a Wireless Network

You can enable and disable connections to wireless networks without a password even when changes to the wireless network options are protected by a password.

Note: If the ultrasound system is connected to both a wireless network and a local area network (LAN), the system uses the LAN connection for sending files to network locations.

To configure a connection:

Prerequisite: The wireless adapter is connected to the leftmost USB port on the Input/Output panel of the ultrasound system.

1. Access the system presets.
2. Select **Wireless**.
3. Enter a password, if required.

To	Do This
Activate a connection to a wireless network	**Note:** Siemens recommends using secured networks to ensure data security.
	▪ Select **Enabled**.
Deactivate the connection to a wireless network	▪ Select **Disabled**.
Connect to the selected network	1. Click **Scan** to refresh the list of wireless networks.
	Note: The wireless adapter must remain connected to the ultrasound system while refreshing the list.
	2. Select a network from the list.
	3. Click **Connect**.
	4. If the system displays the **Network Profile Settings** dialog box, enter the required profile settings and then click **OK**.
	The ultrasound system displays the wireless icon indicating a connection to a wireless network and the signal strength on the status bar.
	See also: System Setup, Chapter 3, Instructions for Use
Disconnect from the selected wireless network	1. Select the connected network from the list.
	2. Click **Disconnect**.
	The ultrasound system disconnects from the wireless network. If connected to a LAN, the system reverts to using the LAN connection for sending files to network locations.

To	Do This
Create a network profile	1. Click **New**. The ultrasound system displays the **Network Profile Settings** dialog box. 2. Enter the required network profile settings and then click **OK**. The ultrasound system displays the new network profile.
Change network profile settings	1. Select a wireless network. 2. Click **Edit**. 3. Enter the required network profile settings and then click **OK**. 4. To delete the existing profile setting, click **Remove**.
Enable password protection to restrict changes to the wireless network options	1. Click **Lock**. 2. Enter a new password and then click **OK**.
Disable password protection to provide unrestricted access to the wireless network options	1. Click **Unlock**. 2. Enter the password and then click **OK**.
Change a password	1. Click **Change**. 2. Enter the password. 3. Reenter the new password and then click **OK**.
Display characters of a password as you enter the password	▪ Select **Show password**.

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MV E/A (Mitral Valve, E point to A point Ratio)

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MV CA/CE (Mitral Valve, CA amplitude to CE amplitude Ratio)

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IVRT (Isovolumic Relaxation Time)

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LVIMP (Left Ventricular Index of Myocardial Performance)

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TR V max (Tricuspid Regurgitant Jet Plus Right Atrial Pressure)

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AV PG max (Aortic Valve maximum Pressure Gradient)

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Yoganathan AP, Cape EG, Sung H, Williams FP, Jimoh A. "Review of Hydrodynamic Principles for the Cardiologist: Applications to the Study of Blood Flow and Jets by Imaging Techniques." *Journal of the American College of Cardiology*, 12(5):1344-1353, 1988.

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TR PG max (Tricuspid Regurgitation maximum Pressure Gradient)

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TR PG mean (Tricuspid Regurgitation mean Pressure Gradient)

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TV PG max (Tricuspid Valve maximum Pressure Gradient)

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TV PG mean (Tricuspid Valve mean Pressure Gradient)

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LVOT PG max (Left Ventricular Outflow Tract maximum Pressure Gradient)

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Menstrual Age by Ultrasound and Estimated Date of Confinement

CLINICAL EDC - Estimated Date of Confinement by Last Menstrual Period

280 days added to date of **LMP** date.

CLINICAL MA - Clinical Menstrual Age

Source data for Clinical MA is determined by the user during the Patient ID operation calculated weeks and days since LMP.

US MA - Composite Menstrual Age Estimation by Ultrasound

Simple Average - US MA(ave)

The sum of all menstrual ages determined by single parameter tables/formulas, divided by the number of parameters summed.

Regression Equations, Hadlock

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US EDC Estimated Date of Confinement by Ultrasound

280 days - today's **US MA** (in days), add to today's date = **US EDC**

Parameters for Growth Analysis Graphs

The references in this section are used to analyze fetal growth by plotting a measured parameter against clinical menstrual age. The plotted points are displayed on a graph that indicates the 5%, 50%, and 95% for an expected parameter measurement determined by a function using menstrual age.

Mean Gestational Sac Diameter

Rempen A. "Biometrie in der Frühgravidität (I. Trimenon) (Biometry in Early Pregnancy (1st Trimester))." *Der Frauenarzt* 32:425, 1991.

Gestational Sac

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