

Terason™ Ultrasound System

Release Notes for Version 3.6.6

Note: This document lists changes to the Terason Ultrasound System starting with Release 3.6.0. This document lists the changes by release; the software itself is cumulative and the latest software release contains all of the changes and enhancements listed here.

Release 3.6.6

Added Obstetric Calculation Functions

The software now automatically calculates estimated due date (EDD) and average acoustic age (AUA) when certain obstetric measurements are made.

Release 3.6.5

Samsung X25 Compatibility

Updated User Interface

The Terason software user interface was optimized for the laptop display. In modifying the user interface the following changes were made:

- The Terason Explorer bar is now accessed through a button on the bottom toolbar. This button allows the user to toggle the explorer window on and off.
- 2) The Directional Power mode is now accessed through the Power Doppler tab.

Samsung X25 Display Setup

A display setup (Gamma Correction/Display Setup... on the Tools menu) created for the Samsung X25 laptop display has been added to the installation.

Increased the steering angle for Dialysis Access

The steering angle range in Dialysis Access has been increased to +/- 30 degrees.

Improved Licensing

The licensing software was modified so that the serial number on an un-licensed system does not change when the application is closed.

Release 3.6.4

Support for Windows XP Service Pack 2

The Terason software now supports Windows XP Service Pack 2.

Upgrading on a System Running Windows XP Service Pack 2

If you upgrade to Release 3.6.4 on a computer running Service Pack 2 (you did the workaround provided by Terason), you must also install the "The Terason License Patch for Windows XP Service Pack 2". Refer to the "Terason 2000 Software Install/Uninstall Instructions on Windows XP Service Pack 2" for more information.

Terason™ Ultrasound System

Release Notes for Version 3.6.6

If you have any problems with installing Release 3.6.4, please contact Terason Technical Support:

In the U.S.A.: 1-866-TERASON (1-866-837-2766) Ext. 1048

Outside the U.S.A.: 781-270-4143 Ext. 1048

New Acoustic Table

The software contains updated acoustic tables for the 4C2, 4V2, and 10L5 transducers.

Color Stuttering Problem Resolved

In prior releases, a color stuttering problem was observed when moving the mouse while scanning in Color Doppler mode. This release fixes the problem.

Release 3.6.3

Bug Fix

A software error that occasionally caused a memory exception and program termination when saving image files was fixed.

Release 3.6.2

Bug Fix

Release 3.6.1 had a problem loading the measurement tables for users who upgraded from an earlier release. This issue has been fixed – the measurement tables now load for all users and all obstetrical calculations are available.

New Acoustic Table

The software contains updated acoustic tables for the 10LAP4 transducer.

Release 3.6.1

Exam Enhancements – New Dialysis Access Exam

A new exam has been added to support the 10L5 and 7L3 transducers. The Dialysis Access exam includes all appropriate anatomy text in the Annotation dialog. When you save an image generated using this exam, the file name starts with DIA.

When making measurements on a PWD scan, you can label the measurement with any of these vessels:

- Anastomosis
- Fistula
- Graft
- Shunt

The default 2D measurement for the Dialysis Access exam is Stenosis Diameter; the default PWD measurement is Flow Volume.

Terason™ Ultrasound System

Release Notes for Version 3.6.6

Color Doppler Enhancements

You can now choose whether Color Doppler data will display using the standard Rainbow color map, or with a new Red-Blue color map. You can configure the color map independently for each exam by opening the Options dialog box (select **Tools > Options**) and clicking on the Display Mode tab. The Dialysis Access exam uses the Red-Blue color map as its default; all other exams use the Rainbow color map as the default.

Pulsed Wave Doppler (PWD) Enhancements

When measuring Flow Volume, you can now independently move the top and bottom vessel wall markers to define the location of the range gate. You can also use the 0/±60 button on the PWD Measure tab to quickly change the correction angle.

Measurement Enhancements

Added a “New Measurement” item to the Measurement menu. When selected, the application shows the measurement cursor in the active window (2D or Time Series).

The context menu in the Time Series window also includes a “New Measurement” item. When selected, this item starts a measurement of the default type for the active exam.

You can now double-click in a frozen 2D image to start a new measurement. The Terason software places the first measurement point where you double-clicked.

View Menu Enhancements

The Text Size option has been moved to the View menu to allow you to quickly select a size. The Largest text size has been increased for better viewing on DVD recordings and multiple image prints.

The Large Thumbnail and Small Thumbnail options have been replaced with a single option, Large Thumbnail. Selecting this menu item toggles it between checked and not checked. When not checked, the Image Sorter window uses small thumbnails to display file preview images; when checked, the Image Sorter window uses large thumbnails.

Text Annotation Enhancements

The Text tab of the Annotation dialog box now has quick keys to move to a section of the dialog box.

DICOM Enhancements

You can choose whether or not to compress DICOM files when saving them in the Terason data area on the local computer. By default, DICOM files are compressed using the DICOM RLE syntax. DICOM image are uncompressed to the DICOM implicit little endian syntax when exported or sent to a DICOM server.

This local compression can now be disabled in the Save tab of the Options dialog box (opened by selecting **Tools > Options**) by clearing the “RLE Compress local DICOM files” check box. The default should only be changed if you want to directly access the files in the Terason data area using software that cannot read the DICOM RLE syntax. Changing the default will result in longer image save and load times and larger image files.

Terason™ Ultrasound System

Release Notes for Version 3.6.6

Patient Enhancements

If patient information has been loaded and you create or load a new patient, the Terason software reloads the presets for the medium size of the current exam.

Release 3.6.0

New Split Screen Feature

The Split Screen feature allows you to view two current images at the same time. This feature allows you to acquire an image, go into Split Screen mode, and acquire a second image from a different location or angle.

When using Split Screen mode, you can toggle between the two images, save or print the images, add annotations, and make measurements.

The Split Screen is enabled in the 2D imaging modes (B-Mode, Color Doppler, Power Doppler, and Directional Power Doppler) only.

When initially split, the second image copies the settings from the first image. After the split, all Image Control properties can be set independently for each image.

B-Mode and color Doppler modes can be mixed.

Combined measurement results from both images are displayed together.

When saving in DICOM, BMP, JPEG or AVI formats, the entire screen is saved with both images. When saving in the Terason format, only the active image is saved. .

Annotations Enhancements

This release includes extensive enhancements to text and body marker annotations. A new Annotation window provides tools for selecting exam specific text and body markers.

Text Enhancements

Text annotation mode can be selected from the Text toolbar button or the Annotation menu. Prepared text can be selected from three lists: Patient Position, Scan Orientation, and Anatomy Text. Selected text is inserted at the caret on the image. Anatomy text is specific to the current exam type.

The Annotation menu also includes a new Set Text Home Position menu item. This item lets you choose where you want text to appear on the 2D window when you enter Text Annotation mode.

Selecting, inserting, moving and editing text is fully supported from mouse or keyboard. Text is inserted on the image at the caret by typing or selecting text from the Annotation window.

Clicking in the text or pressing the left and right arrow keys while in edit mode repositions the insertion caret. Click and drag, or use <shift> left and right arrow keys, to move text while editing.

You can use the Options item in the Tools menu to add user-defined Anatomy Text for any exam. Custom text displays at the bottom of the list of Anatomy Text.

Text annotation is used as a hint to pre-select vessel laterality, location and name for PWD measurements.

Terason™ Ultrasound System

Release Notes for Version 3.6.6

Annotation Arrows

You can show an arrow from text to any point on the image to assist in identifying without covering important anatomy. Empty text items can be used to display additional arrows. You can edit the exact location of the text, arrow or arrowhead by clicking and dragging.

Body Marker Enhancements

The Body Marker item in the Annotation menu now opens the new Annotation window with the Body Marker tab visible.

In the Body Marker tab, several views are included based on the current exam. You click on the marker you want to add to the image display.

You can move the Body Marker to any location in the 2D window.

You can rotate or move the indicator within the Body Marker to a new location or orientation.

Patient Information Enhancements

The Patient Info tab now allows you to enter this data items for your patients:

- Study ID
- Accession #
- Height
- Weight

Height and Weight can be configured for entry and display in English or metric units. All fields are transferred to DICOM images.

In addition, you can now enter an extended patient comment with up to 10 lines of text.

When viewing the Patient Info tab, the Print buttons and menu item will print the Patient Information.

New Keyboard Shortcuts

Several new keyboard shortcuts are now supported.

The . (Period) Key

In Color Doppler mode, the period selects the Region of Interest (ROI); you can then use, the mouse, the keyboard arrow keys, or the laptop's touch pad to move the ROI.

If you press the Period key twice, you can resize the ROI, again by using the mouse, the keyboard arrow keys or the laptop's touch pad.

In Pulsed Wave Doppler mode, the period key selects the sample volume gate and you can use the mouse, the keyboard arrow keys, or the laptop's touch pad to move the gate and scan line.

The / (Slash) Key

In Pulsed Wave Doppler mode, the slash key selects the Steering Angle control on the PWD tab of the Image Control bar for linear transducers. You can then use the keyboard left and right arrow keys to change the Steering Angle. Pressing the slash key twice selects the Correction Angle control. You can then use the keyboard left and right arrow keys to change the Correction Angle. The Slash key selects the Correction Angle control when using phased or curved transducers.

Terason™ Ultrasound System

Release Notes for Version 3.6.6

The Right Shift Key

The right Shift key is the hot key for the new “Update” button on the PWD Image Control bar. The “Update” button replaces the former “Simultaneous” button in previous versions of Terason software.

Enhanced Ability to Save Images

This release allows you to use the Save and Save Loop buttons to select alternate image formats, without changing the default save image file type options. When saving an image frame or loop, you can click the icon on the button (will vary depending on your default), or you can click the arrow on the button and select from the available file types.

You can still use the **File > Export** (replaces File > Save As) menu item if you need to change the location or name of the saved file.

Added Ability to Send Measurements to a Connected Computer

The **Send Measurements to Serial Port** menu item in the **Measurement** menu lets you send data from an Obstetrical or Gynecological exam via a serial link to a connected computer running the R4 statistical reporting software package. The second computer must be connected via USB to serial adapter and serial cable from the Terason system to the reporting computer.

Tools Enhancements

This release adds a menu item to the Tools menu, and additional items to the Options dialog box.

New Restore Default Window Layout Menu Item

In the Tools menu, the new item **Restore Default Window Layout** lets you quickly restore the toolbars and windows to their default locations.

New Settings in the Options Dialog Box

The Options dialog box (opened by selecting **Tools > Options**) lets you enter custom text that will display at the bottom of the Anatomy Text list. Custom text is added by exam type.

The Options dialog box also lets you set the units used for patient information. In the Display Mode tab, you can select English (feet, inches, and pounds).

A 2D Display option has been added that lets you optionally choose to scale phased and curved images for maximum sector width and to scale linear images for maximum width.

The Measurement tab in the Options dialog box lets you choose with serial port (COM1 to COM4) to use in conjunction with the new **Send Measurements to Serial Port** menu item.

Integration with Sonocubic 3D Imaging Software

If you have Sonocubic running on the same computer as the Terason application, you will see a 3D button (showing the Sonocubic logo) added to the Scan Modes toolbar. When you click this button, the system enters 3D acquisition mode. When you have completed and saved your 3D reconstruction, the system automatically returns to the Terason user interface. You can start 3D from B-Mode, Color Doppler, Power Doppler, or Directional Power Doppler imaging modes.

Any AVI, JPEG or bitmap file saved while in 3D mode can be opened for review in the Terason application.

Terason™ Ultrasound System

Release Notes for Version 3.6.6

Terason Explorer/Image Sorter Enhancements

Saved images are sorted by creation time and grouped by file type. Sorting and grouping can be modified by selecting from the context menu while the study folder is highlighted. The same order is maintained in both the Terason Explorer and Image Sorter.

New Needle Guides

New Protek needle guides are supported for 4C2V and 10L5V probes.

Cardiac Measurements

Cardiac ventricular measurements are re-ordered as follows: RVDd, IVSd, LVDd, LVPWd, IVSs, LPVWs, and RVDs.