

Comparative Analysis Software

► FEATURES

File Compatible

Delta has been integrated with the FastSCAN hand-held laser scanner software; as a result, FastSCAN files can be easily loaded.

Landmarks and Surface Based Registration

Delta has the capability to import embedded or user-defined landmarks. Once landmarks are defined, the system performs surface registration using proprietary techniques (patent pending). Registration is accomplished quickly and effortlessly using a combination of both landmark and surface-based algorithms to ensure the best possible results.

Intuitive Graphical User Interface

Delta incorporates a simple intuitive graphical user interface that displays comparative dual windows for ease of use. The interface allows the user to determine exactly where landmarks and regions of interest are placed. Numerical and other data such as landmark locations and volumes are presented clearly in a separate window visible below the main display.

Display, Define and Calculate Functions

Once images are registered, a colored graphical displacement map may be shown on the surface to highlight differences. A color bar to the right of the image correlates to the amount of difference in millimeters.

For a specific area of interest, the user can define appropriate boundaries in order to calculate volume differences. Cross-sections may also be specified for calculation of linear distances and the display of contours on a selected plane.

By using a proprietary 3D interpolation process, Delta can also calculate absolute volumes on a single scan. Thus the volume of a concavity (e.g. wound) or convexity (e.g. keloid) can be found from a single scan.

Sections

In section mode, the surfaces are sliced by a user defined cross section plane to display a contour and enable the user to define pairs of points. Point-to-point measurement may then be made where the plane intersects the surface. The measured distances are linear point-to-point and the curvature distance from point-to-point.

Output

Delta generates a report in PDF format, which can be printed or viewed using a web browser. The output report includes any landmarks, volumes and sections that have been defined.

Quadrants

In Quadrant mode the surfaces are sliced by two additional user-definable cross-section planes which are set perpendicular to the base plane as defined in Section mode. These planes define the quadrants used for volume, surface area and area per plane calculations. Each volume is also represented as a percentage of the total of the four selected volumes.

Contours

Contours allow for Anterior-Posterior(AP), Medial-Lateral(ML) and circumferential measurements either automatically or in user-defined steps. A point pair may also be designated upon a specified circumference and measurements of the curvature between the two points may be taken.

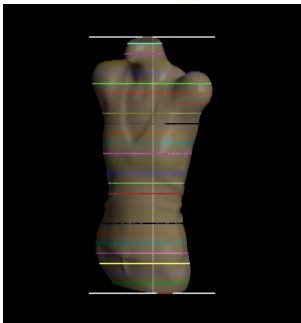
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Delta™, an advanced comparative software tool, builds upon standard volumetric analysis with the added ability to calculate circumference; point-to-point linear and curvature distance measurements; and create contours and cross sections. Easily calculate the volume of any selected surface or register and compare successive scans of the same object to detect and measure change. Delta simplifies the process of comprehensive measurements on complex 3D shapes.

Delta works directly with files generated by the FastSCAN™ family of hand-held laser scanners or with OBJ files, allowing data from many different sources to be analyzed. Delta is available on a single PC license basis only and provides a complete work-flow solution to many difficult 3D measurement problems.



Circumference measurements with PDF report function

| Contour | Colour | Circumference(mm) | Anterior-Posterior (mm) | Medial-Lateral (mm) |
|---------|--------|-------------------|-------------------------|---------------------|
| 1 | Red | 127.71 | 9.61 | 59.37 |
| 2 | Green | 634.69 | 145.95 | 238.28 |
| 3 | Blue | 774.97 | 222.59 | 269.88 |

Below is a topographic color map of facial swelling after molar extraction. Also shown are registration marks.

