

FASTSCAN COBRA C1

THE FAST AND EASY Digital Scanner

CREATE 3D MODELS IN REAL-TIME

The FastSCAN™ COBRA C1™ instantly measures 3D shapes by smoothly sweeping a handheld, ergonomically correct laser scanning wand over an object in a manner similar to spray painting. FastSCAN is lightweight, quick to set up and captures 3D images in real-time. The finished scan is then ready to export to CAD, CAM, or 3D modeling software.

FEATURES

FAST AND FLEXIBLE

Handheld unit easily scans complex objects in seconds

QUICK AND EASY SETUP

From unpacking to first scan takes less than five minutes

SCANS MOVEABLE OBJECTS

System includes secondary reference receiver allowing you to turn, rotate, or move objects while scanning

AUTO STITCHES 3D IMAGES AS YOU SCAN

Scans stitch together in real-time, eliminating post-processing or the need to place registration marks on the object to be scanned

EXPORTS SCANNED OBJECTS TO INDUSTRY STANDARD FORMATS

More than a dozen export formats available

SURFACE EDITING

Select and delete raw data points from sweeps, allowing for modification of raw scan

METRIC OR IMPERIAL UNITS

Allows for measurements in main display window to be calculated in millimeters or inches

COMPACT AND PORTABLE

Each handheld unit includes a compact carrying case



COMPLETE COBRA C1 SYSTEM



FASTSCAN COBRA C1 WAND

PORTABLE AND LIGHTWEIGHT

The industry's most portable and lightweight, handheld laser scanner, FastSCAN, goes everywhere you go—archaeological digs, the plant floor, even sensitive areas like medical examination rooms. Built with Polhemus proprietary electromagnetic tracking technology, FastSCAN is ideal for capturing 3D images of non-metallic, opaque objects in real-time—even if the objects being scanned are moving.

3D SCANNING WAND

FastSCAN works by projecting a fan of laser light on the object while the camera views the laser to record cross-sectional depth profiles. By incorporating Polhemus patented FASTRAK® motion tracking technology in the wand, a computer reconstructs the full three-dimensional surface of an object in real-time. The 3D data can then be exported to a host of popular 3D modeling, graphics, and CAD programs, or used within the included FastSCAN software.

APPLICATIONS

Rapid prototyping, orthotics and prosthetics, animation, woodworking and millwork, archaeology, entertainment, 3D archiving and more.



SYSTEM OPTIONS

RBF SOFTWARE ENHANCEMENTS

- Automatic hole filling
- Smooth extrapolation of surfaces
- Mesh simplification while preserving scan detail
- Mesh is characterized by more uniform triangles

MINIATURE TRANSMITTER

For areas less than 22 inches, the system is available with a miniature transmitter (Short Ranger). Because the transmitter is always the reference, this may be placed on the subject to compensate for movement without using a secondary reference receiver. The advantage is a simplified setup and faster, often more accurate scans of moving objects.

STYLUS

Mechanical

Pressing the button on this pen-like stylus generates a position and orientation marker calibrated to the tip. These coordinates are recorded by the FastSCAN software and can be displayed on the screen and exported as raw data.

Optical

Stylus is added to the wand and turns the FastSCAN into a point digitizer. The hinged shutter is swung down when in stylus mode and changes the laser line into a point. The location of the point on the object's surface, and the orientation of the wand, are recorded whenever the wand trigger is depressed while in stylus point mode.

Mark with Mouse (Requires Stylus License)

This function allows the user to place reference points or lines directly onto the 3D scan using just the click of a mouse.

REFRACTION CORRECTION

Optical glass distortion correction that makes scanning through glass more accurate by mitigating refractive error.

AAOP FILE FORMAT

O&P medical file format used with third party software

SPECIFICATIONS

INTERFACE

USB only

SOFTWARE

Flexible and intuitive, the FastSCAN software allows the user a variety of options, such as adjusting scanning resolutions, linear measurements, customizing scan sweeps and controlling 3D views such as solid, wireframe or point and rotate, zoom, center and scale.

Export formats to 3D Studio Max® (.3ds), ASCII (.txt), AutoCAD® (.dxf), IGES® (.igs), LightWave® (.lwo), MATLAB® (.mat), STL (.stl), Virtual Reality Modeling Language (.wrl), Wavefront® (.obj), Open Inventor® (.iv), Visualization Toolkit (.vtk) Polyworks® Scan (.psl), Stanford Polygon (.ply) and optional AAOP file format.

RESOLUTION

Resolution along the laser line depends on wand-to-object range, typically 0.5 mm at 200 mm (0.02 inches at approximately 8 inches) range and as good as 0.1 mm.

SCANNING SIZE

Radius of object up to 75 cm (30 in) with standard 2-inch source. Longer scans available with optional 4-inch source.

ACCURACY

Absolute accuracy within a 60" sphere: 0.75 mm (0.03 in)

Practical accuracy determined by scanning a bowling ball and calculating the variation in radius over the point cloud surface: 0.13 mm (0.005 in)

ENVIRONMENT

Operation in the presence of large metal objects may interfere with the scanner's tracking and may degrade performance. Because the scanning laser is considered a light source, some surfaces may not be suitable for laser scanning, such as translucent, transparent, reflective, dark, or deeply convoluted surfaces. Surfaces may be treated to enhance laser light reflectivity.

MINIMUM COMPUTER REQUIREMENTS

1 GHz (minimum) 2 GHz recommended for RBF option
512 MB RAM (minimum) 1 GB recommended
Microsoft Windows® XP and later versions;
2 GB RAM recommended for Vista and later versions
High powered computers will result in more responsive and faster surface calculations

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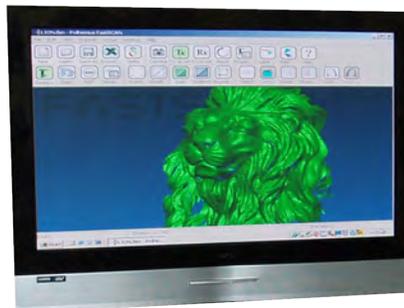
POLHEMUS.COM

40 Hercules Drive • PO Box 560 • Colchester, Vermont 05446-0560
US & Canada: 800.357.4777 • 802.655.3159 • Fax: 802.655.1439

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3D SCANNING RESULTS APPEAR
ON SCREEN IN REAL-TIME



COBRA C1