

3DIS

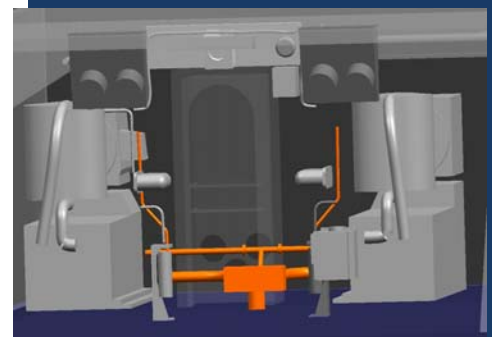
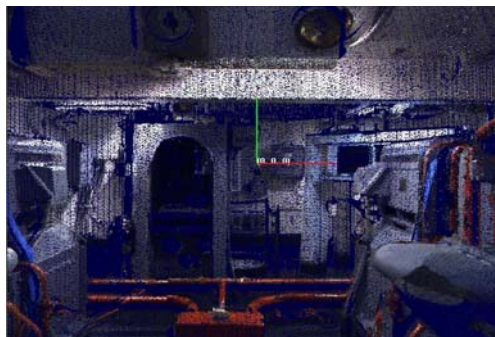
3DIS

Revolutionary Digital 3D Image and Data Capture System

MODEL 1500

3DIS enables professionals to produce in a fraction of time accurate, visually rich complex digital information about spaces and objects that is directly transferable to high-end design applications such as industrial-grade CAD. While directing and detecting a pinpoint of laser light as it scans the target's surfaces, 3DIS's wide-angle digital camera captures a full field-of-view photo image of the target. Once 3DIS completes the capture phase, the technology automatically executes image processing algorithms. These algorithms generate a dimensionally-accurate digital 3D model of the target space or object, automatically fuse image texture onto 3D model geometry, and export file formats ready for 2D/3D CAD application tools. 3DIS integrates two devices for capturing data - a laser scanner to capture spatial measurements and a digital camera to capture image color and texture. Its versatile pan and tilt mount enables 3DIS to capture data in virtually any orientation with minimum operator input. 3DIS is scalable to accommodate 3D data capture of small, medium, or large objects.

In addition to displaying raw point data and textured point clouds, 3DIS exports ASCII text files for subsequent processing such as for 3D CAD modeling and analysis.



APPLICATIONS: Room and contents dimension data capture, Reverse Engineering, Physical Plant Lifecycle Maintenance, Repair & Overhaul, Training, Modeling & Simulation, Forensic & Crime Scene Investigation.

INDUSTRIES: Maritime; Military (Navy, Coast Guard); NASA; 2D/3D CAD Modeling; Manufacturing, Fabrication and Production.

CUSTOMERS: U.S. Air Force, U.S. Navy, NASA.



TECHNICAL SPECIFICATIONS MODEL 1500

ScanHead Characteristics

Instrument Type:

High-speed laser Scanner

Scanner Drive:

Servo and Stepper Motor

System Interface:

Ethernet, 100BaseT

Laser Type:

modulated beam; time-of-flight measurement

Laser Frequency:

780 nm (near IR)

Laser Safety Rating:

Class IIIb (20 mw)

Optical Sensor:

2M Pixel CCD color digital camera

Processor Platform:

standard laptop

System Requirements:

Microsoft Windows 7, 8 or 10

4GB RAM or higher

SVGA (or higher) accelerated graphics capability; Open GL required

Ethernet interface (via built-in interface or external network card)

Size [head only]:

10" x 10.25" x 16.5" - including tripod mount
(250.00mm x 260.35mm x 419.00mm)

Weight [head only]:

22lbs (10 kg)

Operating Temperature:

32°F to 104°F (0°C to 40°C)

Mounting Type:

Standard round sleeve 2.0 inch (I.D.) diameter

Operating Characteristics

Ambient Lighting Range:

Fully dark to bright sunlight

Field of View

When mounted on a standard tripod, scans a 360° sphere excluding a radius = 4 inches (101mm) cylinder about the central pivoting axis of the tripod

Range:

Up to 54 feet (16.46 meters) at 85% reflectance; no minimum range; range can be extended with reflective targets

Laser Spot Size:

0.1" with 0.5 milliradian divergence, or 0.4" at 54 feet (2.5mm with 0.5 milliradian divergence, or 10mm at 16.46 meters)

Scan Density:

User-selectable angular resolution of horizontal scan spacing down to 0.05°.

The distance between adjacent vertical scan slices is 0.57" at 54 feet (14.36mm at 16.46 meters)

Scan Rate:

5,000 points per scan; approximately one scan per 1.5 seconds

Range uncertainty:

0.2 inches (5.1mm)

Azimuth uncertainty:

± 250 microradians, or 0.31" at 54 feet (8mm at 16.46 meters)

Elevation uncertainty:

± 195 microradians, or 0.25" at 54 feet (6.25mm at 16.46 meters)

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