RIGHT HEMISPHERE® 5

Deep Exploration™ 5.5 Standard Edition
Selected Features

Summary of Selected Features

High Productivity Visual Product Communications & Collaboration Desktop Application

Easy to Learn User Interface

- Quickly navigate, search and display 2D and 3D graphics with familiar Microsoft Windows Explorer interface
- Unified workspace incorporating translation, 3D object modeling, scene composition, key frame animation, illustration, and publishing
- UI with dockable toolbars for customized layout
- Easily manipulate and interact with 3D scene using standard 2-button mouse (Pan, Zoom, Rotate)
- Search your computer, network, and/or the Internet for files by file name or format
- Keyboard shortcuts for increased productivity
- Improved UI, prompt to Save, Copy & Paste for creating object instances

ENHANCED - Search & Select Dialog: search area: selected, visible or all, numerical input

NEW - Fly to Object via Middle Mouse button/wheel click

NEW - Traverse up and select objects in the Scene Tree from an assembly or part selection via Alt Left Mouse click

Powerful Object Editing

- Interactive object highlighting to easily identify selected or non-selected objects for editing
- Primitives and modifiers to add simple geometry to scene without the need for other 3D authoring packages
- Grouping and hierarchy tools available to easily manage complex models
- Precision selection tools enable complex shapes to be selected during model cleanup, scene alteration, and animation editing
- Add BOM/Parts List from external XML
- Pull Apart objects tool and reset to original default/home state
- Mirror tool to quickly create object instances with transformations

NEW - Alignment Tool to easily align, distribute and center 2D objects

NEW - Reorder and group parts and assemblies by drag and drop in Scene Components panel

Advanced Scene Configuration and Layout

- Multiple viewport configurations enable up to four simultaneous views of scenes for easy alignment and editing of geometry
- Flexible viewport modes (1/2, 3/4, full) for authoring, editing and viewing
- Gradients and background images can be used as the viewport background
- 3D object shadow makes scenes more aesthetically pleasing and photoreal
- Layers for associating scene components provide an alternate way to group, manage, and display geometry and scene elements
- Optimized rendering engine for the highest quality and performance real-time display
- Merge multiple 3D files into scene
- Reordering of Layers

ENHANCED - Detail View zoom tool to create locator graphics

ENHANCED - Universal, CAD and PMI Metadata support and Browser

NEW - New 2D drag and drop. Deep Exploration now supports a 2D layer in the 3D scene. User can Right Click drag and drop images, symbols and vector files onto a 2D layer or into the 3D scene

NEW - Customizable UI layout support, save/load layout option

NEW - Materials, Animation, Layers and Parts panels can be moved and docked from Scene Components panel

NEW - Camera alignment to point/face/surface

Powerful 3D File Transformation

Accurate 3D Model Translation

- Import and translate 2D and 3D graphic formats (See View / Import Formats list below)
- Import options to control polygonal mesh densitiy for optimal visual quality
- Maintain DCC 3D hierarchy, materials, and attributes such as part identifiers, assembly structures, call outs
- Translate camera, key frame animations, inverse kinematics, soft-body animations, skin and bones across all major DCC file formats

NEW - Visual Compare Tool to easily identify the difference between two versions 3D parts or assemblies by painting every marked object in the scene in 3 different colors

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Powerful 3D File Transformation

3D Graphics Optimization

- Best in class, dynamic polygon reduction to reduce file size and preserve shape of objects
- Object instancing for smaller file sizes, faster data transfer and increased real-time performance
- Remove hidden objects which are not visible from the outside of the objects to further reduce file size
- Merge and/or remove materials to reduce the number of materials in the 3D scene
- Join equal points for more efficient models in real-time visualization

ENHANCED - Select and remove small objects dynamically based on the size or polygon count

3D Graphics Repair

- Unify normals for proper orientation to camera
- Invert faces and normals and easily isolate and select backward or front-facing surfaces
- Heal polygonal models, join cracked models and weld vertices while maintaining edge definition

Unified 2D and 3D Product Graphics Authoring

Photoreal 3D Image Authoring

- Apply real world materials, textures and reflection maps from advanced materials palette to achieve realism
- Edit material attributes including diffuse, bump, opacity, reflection, and more
- Enhanced automatic UV maps capability enables texture maps to be applied to 3D models
- Realight™ that bakes shadows to texture maps or vertex colors to simulate global illumination
- Apply different colors to adjacent objects for easy visualization of complex assemblies
- Selectable Object Elements tool allows materials to be set for groups of faces, add different materials, flip normals
- Add lights and advanced primitives
- Bake Transformation tool
- Improved Color palette/selector

ENHANCED - Advanced material thumbnail display allowing easy material identification and object selection by material

NEW - Environment Maps support enables higher quality real time display and photo realistic renderings

3D Animation Authoring

- Create and edit advanced key frame 3D graphic and camera animations
- Full featured animation timeline editing allows key frame location and properties manipulation
- Independent multiple animations control using animation sequences and sequence tracks for position, rotation, scale, and opacity
- Assign sequences to steps to create assembly / disassembly procedures
- Numeric and interactive object positioning tools allows precise object and animation editing
- Explode objects and create explode animations automatically
- Camera trajectory editing
- Key framing extensions to new data types - color, position, rotation, texture UV

ENHANCED - Automated parts and assemblies update workflow

NEW - Direct frame or time input to jump Animation Scrubber Playhead

NEW - Direct animation Sequence editing of start and end points and duration within the Animation panel.

NEW - Reorder animation Sequences by drag and drop within the Animation panel.

NEW - Direct editing of animation Sequence Name.

NEW - Ability to merge multiple selected animation Sequences into a single animation Sequence.

NEW - Record Keyframes button added to Animation controls

NEW - Record Keyframes button in the On position highlights the 3D Viewport in Red and displays [REC] in top right corner of the 3D Viewport

Steps & Procedures Authoring

ENHANCED - Step authoring to communicate interactive assembly / disassembly procedures

ENHANCED - Each step includes the step name, description, keyword metadata, and one or more sequences

NEW - Multiple Procedures supported in .RH file

NEW - Expand & collapse Procedures to view Steps within a Procedure

NEW - Direct text editing of Procedure Name, Step Name and Step Description

NEW - Duplicate & Reverse a selected Procedure enables the automatic creation of an Assembly Procedure from a Disassembly Procedure and visa versa

NEW - Multi select Steps using Shift and or Ctrl Keys for moving and deleting Step selections

NEW - Render to Video file will render selected Step or Steps and Animation Sequences to a .AVI file or frames including Step subtitles

NEW - Render to Raster will render all selected Steps to a Raster file

NEW - Render to Vector will render all selected Steps to a Vector file

NEW - Sequence Highlight will automatically highlight all objects that are animated within attached Animation Sequences per Step

NEW - Output Size options are now persistent per Step

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Unified 2D and 3D Product Graphics Authoring

Model Views & Portfolio Authoring

- Predefined views of graphics to ease viewing and navigation
ENHANCED - Associate current camera position, render mode, and 3D object visibility within each model view
NEW - Standard and custom Output Size options dialog for precise graphics alignment
NEW - Expand & collapse a Portfolio to view Model Views within a Portfolio.
NEW - Multiple Portfolios supported in .RH file
NEW - Direct text editing of Portfolio Name
NEW - Duplicate command duplicates a selected Portfolio and all Model Views within the selected Portfolio.
NEW - Update Render Mode will update selected Model Views render mode to the current render mode state.
NEW - Render to Raster will render all selected Model Views to a Raster file
NEW - Render to Vector will render all selected Model Views to a Vector file
NEW - Output Size options are now persistent per Model View

High Quality Line Art Illustrations Authoring and Rendering

- Industry standard vector and raster file formats
- Create illustrations from predefined isometric, diametric, and trimetric views and specify unique views via XML
- Multiple render modes such as Line Illustration, Solid Outline, Shaded Illustration, Transparent, Wireframe, and more
- Specialized rendering engine mode to emulate technical illustration line art
- Orthographic and perspective camera projection
- Callouts adapt to 3D motion and can be automatically positioned to face the camera
- Callouts generated from 3D scene, selected parts or a list may be externally supplied in XML format
- Edge threshold, line weight, color and shading parameters controls
- High quality photoreal raytraced images generation that include shadows, reflections, transparency and other effects
- Realistic lighting effects
- Render images with alpha channels for advanced compositing
- 2D Alpha tool for creation, removal, and manipulation of alpha channels in texture maps
ENHANCED - Bills of Material (BOM) display associated with scene parts
ENHANCED - Enhanced Callouts Dialogs to improve speed of authoring
ENHANCED - Automated display of parts callouts
ENHANCED - 2D and 3D Symbol library that is S1000D compliant
ENHANCED - 2D line styles in 3D Viewer and 2D vector and raster Illustration outputs
ENHANCED - Easy Thrustline creation including animation
ENHANCED - Rendering speeds and accurate line rendering via hidden line removal by calculating intersections (Speed increase up to 40%)
ENHANCED - Bi-directional Callout editing between Parts List/BOM and Callouts
ENHANCED - Drawing tools added to improve techincal illustration workflows
NEW - High quality illustration export - removal of duplicate lines, join lines, etc.
NEW - Illustration support, thick n thin rendering, color fill, and more
NEW - WebCGM export including automatic hotspot creation and XML companion file
NEW - Individual Part or Assembly transparency for enhanced illustration techniques
NEW - Vector Preview can render vector illustration and the load it into Deep Exploration
NEW - Improved halo / arrow size for callouts with user-defined thickness to adhere to S1000 D requirements
NEW - Append multiple Existing BOM's when applying Callouts

View and Markup Graphics

- Slide show mode to display both 2D and 3D graphics
- XYZ markup filtering for improved collaboration
- Ability to calculate surface area and volume of a model
- Thumbnails of 3D Models viewable within Microsoft Explorer
ENHANCED - Measurement tools measure the distance between two object including angles and display focusing on relevant measurements
ENHANCED - Markup and annotations including note, cloud, URL, line, and various shapes
ENHANCED - Clipping plane to create dynamic cross sections to better understand 3D models
ENHANCED - Cross section cutting plane, half and quarter sections - box section cutting
ENHANCED - Detail Views for detail and locator view graphics
ENHANCED - Partslist functionality, including Drag and Drop renumbering, support for external BOMs, and multicolumn metadata support
NEW - Image Notes can be used to markup graphics
NEW - Magnify Glass to designate a closed Detail View
NEW - Notes and Drawing shapes and lines can be projected onto 3D surfaces
NEW - Ability to disable measurements in .RH file for IP security when engaged in collaborative design and outsourcing using Deep Exploration, Deep View and Deep Access

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Flexible Options For Publishing Finished Product Graphics and Documents

- Export to over 40 2D and 3D graphics formats (See Export Format list below)
- Publish and view 2D and animated 3D graphic content within Microsoft Office and Adobe Framemaker documents
- Publish and view 2D and animated 3D graphic content within HTML pages
- Publish CAD Product Manufacturing Information (PMI) data (CAD PMI data must be translated by Deep Exploration CAD Edition or Deep Server)

ENHANCED - 2D and interactive 3D PDF publishing with the included PDF Publishing Module
ENHANCED - Create custom PDF templates for 2D and interactive 3D PDF document publishing
NEW - 20+ PDF Template Designer controls added
NEW - Support for multiple Procedure publishing to HTML and PDF Templates
NEW - Optimized PDF loading times, Materials usage in U3D and selection JavaScript in PDF Publishing
NEW - Publish Background Images to 3D Annotation now supported in PDF Publishing
NEW - Hyperlinks supported in PDF Publishing of Steps Descriptions

Support for High Volume, 2D and 3D Graphics Processes

- Use Deep Exploration CAD or Standard Edition to perform final touch-ups on graphics automatically generated by Deep Server
- Upload 3D graphics authored in Deep Exploration Standard Edition into Deep Server via Deep Access to automatically generate additional predefined 2D and 3D product graphics
- Use Deep Access to manage 2D and 3D graphics authored in Deep Exploration CAD or Standard Edition

Multiple File Options

View / Import Formats (see complete file import/export details on Right Hemisphere Web site)

- Over 30 2D raster image file formats including PSD, BMP, TIF, GIF, JPG, PNG, and HDR
- Over 50 DCC file formats from leading DCC applications including 3ds max, Lightwave 3D, Cinema 4D, Maya, XSI and more (RH, U3D, MAX, 3DS, LWS, LWO, XSI, C4D, MB, OBJ, X, COB, FLT, and VRML, etc.)
- Vector Illustration file fomats including AI, EPS, DXF, CGM, SVG, SWF, and WMF
- Audio file formats including MP3, MP2, WAV, AIFF, SND, MIDI, RMI, AU, and MPA
- Video file formats including AVI, MPEG, M1V, and ASF
- Motion capture file formats including BVH, CSM, C3D, HTR, TRB and TRC
- Text in XML
- Bill Of Materials (BOM) in XML format
- Google SketchUp - SKP
- AutoDesk FiLMBOX - FBX
- Silo3D

Export Formats (see complete file import/export details on Right Hemisphere Web site)

- 2D raster image file formats including BMP, TIF, JPG, PNG, EXR, PPM, IIF, and TGA
- PDF documents including 2D, 3D, text and forms via the included PDF Publishing Module
- Video AVI
- Motion capture file formats inlcuding BVH, CSM, TRC
- Silo3D
- 3D XAML
- Google SketchUp - SKP

ENHANCED - 3D graphics file formats including RH, U3D, MAX, MB, LWS, LWO, XSI, OBJ 3DS, FLT, GEO, COB, X, and VRML
ENHANCED - AutoDesk FiLMBOX - FBX
NEW - Vector Illustration file formats including AI, EPS, DXF, CGM, SVG, and SWF
NEW - WebCGM export including automatic hotspot creation and XML Companion file

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Deep Exploration System Requirements

Minimum

- Windows 2000 SP4 operating system
- Pentium 4 1Ghz processor or higher
- 512MB of RAM (more for large model and texture sizes)
- Microsoft DirectX, version 8
- Internet Explorer 6.0
- Graphics card capable of displaying 24-bit color
- 3D hardware accelerator video card

Recommended

- Windows XP SP3 operating system
- Pentium 4, 2Ghz processor or higher
- 3GB of RAM (more for large model and texture sizes)
- Microsoft DirectX, version 9
- 3D hardware accelerator video card with 128MB of RAM

Additional

- To create custom PDF Templates using the included PDF Template Designer requires one of the following version of Adobe® Acrobat®: Acrobat 8.1+ Pro, Acrobat 3D v8.1+, Acrobat 9 Pro or Acrobat 9 Pro Extended
- An Internet connection is required for 3D Web searches and Cortex updates
- To view and save 3ds max files, a copy of 3ds max must be installed
- To view and save Maya files, a copy of Maya must be installed
- To view 3D content in a HTML Document with 3D (.html) files, Deep View must be installed
- The .rh file type must be added to the Microsoft Windows Server 2003 “recognize file type” set

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