# XENON™ v8

3D Power and finesse without constraints.™

- Updated Interface
- Unified Associative Drawing & Modeling Tools for Wireframe, Surfaces & Solids
- Vellum Drafting Assistant™ for Intelligent Snaps and Alignments in X,Y, & Z
- Unique Hybrid Mac/Windows, Office/Home Licensing
- Complete Set of Precision Import/Export Translators Including ACIS SAT, Parasolid, IGES, STEP, DXF, DWG, EPS, AI, and more
- Class-A NURBS Surface Modeling

- True Solid Modeling
- Surface Analysis
- Full Photo-realistic Rendering & Camera-based Animation
- Design Explorer History Tree
- Associative 2D View Generation with Auxiliary, Section, and Detail Views
- True Associative Dimensioning
- Bill of Materials
- License includes Graphite™ v8
- Associative Assembly Tools
- Object & Group Properties (CG, Volume, Weight, etc.)

General Features

- Direct or Associative 3D Modeling
- ACIS Modeling Kernel from Spatial
- 16 Place Floating Point Accuracy
- Hybrid Mac/Windows, Office/Home License
- 65,000 Hierarchical Layers
- Unlimited Colors
- Unlimited Number of Objects and Drawing Size
- Single File Holds Drawings, Models, Assemblies, etc.
- Direct Multi-sheet PDF Creation
- Universal Binary Support for Intel Mac

User Interface

- Updated Intuitive Vellum Interface
- Drafting Assistant™ for Automatic Snaps and Alignments
- Smart Cursor Changes Shape Indicating Active Tool and Operations
- Strokes and Short Cuts Provide Instant Access to Commands
- Tear-off and Auto-hide Palettes
- Dockable Tools and Palettes
- Palettes can be Flipped Vertically or Horizontally
- Resizable Dialog Boxes
- Status Line to Specify Object Parameters
- Message Line Provides Tool Instructions and Options
- World and User-defined Coordinate Systems
- All Data Entry Fields can Perform Numeric Calculations
- TrackBall for View Selection and Dynamic or Step Rotation
- Show/Hide Palette
- Selection Mask for Easier Selection of Specific Entity Types, Layers, Colors
- Grid (User Definable)
- Object Editor
- Design Explorer™ Layer Tree
- Design Explorer™ History Tree
- History Manager
- Support for SpaceMouse Device on Mac and Windows
- Easy Update Installer
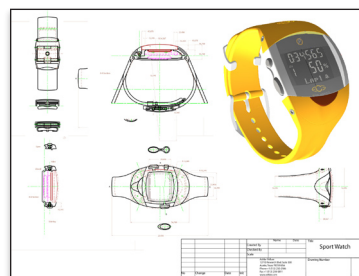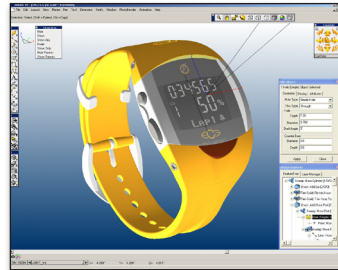
Luc Heiligenstein designed this sports watch using both Ashlar-Vellum drafting and 3D modeling software.

"Ashlar-Vellum products bridge the gap between the artistic aspect and the engineering requirements with everything needed in between."

Read more about Luc's success at www.ashlar.com/success.

XENON™ v8

Display and Visualization

- Scene Display Modes:
    - Flat Shaded
    - Gouraud
    - Gouraud w/Edges
    - Phong
    - Phong w/Edges
    - Hidden Line Dimmed
    - Hidden Line Removed
    - Photo-realistic
- Scene Display Options:
    - Anti-alias
    - ZBuffer Curves
    - Clip at Eye Point
    - Transparency
    - Reflected Environment
- Real-time Object Display Options:
    - Display Iso Lines
    - Silhouettes
    - Transparency
    - Direction
    - Curvature Comb
    - Surface Analysis Display (Gaussian, Mean, Min/Max, Zebra, Normals, Curvature, Draft)
    - Object Display Resolution (Coarse, Medium, Fine, Very Fine, Super Fine)
    - User Definable Object Colors
- Adjustable Perspective
- Infinite Pan and Zoom
- Section Profiles and Cutaway View in the Edit Window
- Real-time 3D Display:
    - Curves
    - Surfaces
    - Solids
    - Meshes
    - Text
    - Bitmaps
    - Dimensions

Object and Group Properties

- Material
- Center of Gravity
- Volume
- Weight
- Density
- Moments of Inertia
- Principal
- Axis

"Besides being technically perfect, this is a tool that allows us to communicate with clients, suppliers and consumers."

Celso Santos and **Christian Albanese**, award winning designers at Rio 21 Design.

Read more at www.ashlar.com/success.

Associative Parametrics

- Parametric Sketch-driven:
    - Direct Input
    - Dimensional
    - Geometric
- Modify:
    - Wireframe Creation
    - Surface Creation
    - Solids Creation
    - Mesh Creation
    - Surface Edits
    - Solid Edits
    - Mesh Edits
    - Solid Features

Object Management Tools

- Design Explorer™:
    - Layer Tree
    - History Tree
- Object Properties Dialog
- Show/Hide Palette

General Transform Tools

- Move
- Copy Along Path
- Rectangular Array Duplicate
- Feature Array
- Rotate
- Polar Array Duplicate
- Scale (Uniform or Differential)
- Mirror
- Align

Text Tools

- Normal
- Along a Path
- Keep Screen Horizontal
- At an Angle
- Set:
    - Font
    - Size
    - Style
    - Color
- Thicken
- Extrude
- Revolve
- Sweep

Wireframe Creation Tools

- Point
- Points on Curve
- Points on Surface
- Line
- Mid-point Line
- Connected Line
- Arc
- Circle
- Ellipse
- Conic
- Rectangle
- Polygon
- Arbitrary Polygon
- Star Polygon
- Sketch Spline
- Through-point Spline
- Vector Spline
- Bezier Spline
- Helix
- Spiral

Wireframe Editing Tools

- Fillet
- Chamfer
- Trim
- Relimit/Extend
- Break
- Offset
- Join
- Extrude
- Revolve
- Project to Plane
- Extract Edge of Surface or Solid
- Increase Order
- Fair Spline
- Add/Remove Spline Points
- Modify Spline Slope
- Curve by Intersection of Plane and a Curve, Surface, or Solid
- Project Curve onto Surface/Solid
- Intersect Two Curves
- Create Points by Intersecting Surfaces or Solids

Surface Creation Tools

- Surface Primitives:
    - Sphere
    - Block
    - Cylinder
    - Pyramid
- Infinite Plane
- Lathe
- Extruded Surface
- Sweep:
    - In Place
    - Perpendicular
    - Ridged
- Sweep Along One Rail:
    - Full Rail
    - To Entity
    - Between Rail Points
- Sweep Along Two Rails:
    - With Maintain Height
- Skin, Skin w/ Guide Curves
- Tangent Loft
- Cover Surface, Tangent Cover
- Net Surface
- Revolved Surface
- Tube Surface
- Offset Surface
- Drafted/Extended Surface
- Fillet Surface

Surface Editing Tools

- Freeform Deformation (Push/Pull Surface Points)
- Deform to a Point, Factor, or Curves
- Add/Subtract/Intersect Planar Surfaces
- Join Surfaces
- Trim/Untrim Surfaces
- Match G1 and G2 Tangency
- Insert Control Points
- Elevate Degree
- Rebuild Surfaces
- Add, Remove, & Replace
- Curves of Associative Surfaces
- Imprint Profile Sketches for Surface Subdivisions

Continued...

Musician, designer and Ashlar-Vellum aficionado, **Greg Morgan** modeled and rendered this guitar.

XENON™ v8

Solid Creation Tools

- Solid Primitives:
  - Sphere
  - Slab
  - Block
  - Cylinder
  - Cone
  - Torus
  - Prism
  - Pyramid
  - Ellipsoid
- Lathe Profile:
  - With Draft
  - Non-planar Profile
- Extrude Profile:
  - Distance
  - Vector
  - To Entity
  - Mid Plane
  - Thin Wall
  - With Draft
  - Non-planar Profile
- Skin, Skin w/ Guide Curves
- Tangent Loft
- Sweep Profile Along One Rail:
  - In Place
  - Perpendicular
  - Ridged
  - Full Rail
  - To Entity
  - Between Rail Points
  - With Draft
- Sweep Profile Along Two Rails:
  - With Maintain Height
- Pipe Solid
- Thicken Surface into Solid
- Stitch Surfaces into Solid

Solid Editing Tools

- Boolean Add/Subtract/ Intersect Solids
- Constant Blends:
  - Radial
  - Elliptical
  - Vertex
- Variable Blends:
  - Linear
  - By Position
  - To Curve
  - To Fixed Width
  - To a Hold Line
- Constant Chamfers:
  - By Length
  - Two Lengths
  - Length and Angle
  - Vertex
- Variable Chamfers:
  - By Lengths
  - Four Lengths
  - Lengths and Angles
  - By Position
  - To Fixed Width
- Holes:
  - With Bore
  - With Sink
  - To Depth
  - Through
  - First Blind
  - To Face
  - With Draft
- Bosses:
  - With Specified Fillet
  - With Draft
- Profile Cutout:
  - With Draft
- Profile Protrude:
  - By Vector
  - To Face
  - With Draft
- Split:
  - With Surfaces or Solids
- Trim:
  - With Curves, Surfaces or Solids
- Shell:
  - With Independent Face Offsets
  - With Core/Cavity Options
- Parting Line:
  - With Draft
- Local Operations:
  - Taper/Draft Face
  - Move Face/Edge
  - Offset Face
  - Remove Face
  - Replace Face
  - Match Face
  - Deform Face (By Factor, To Point, To Curves)
- Bend Solids
- Twist Solids
- Stretch Solids

Independent 2D/3D Drawing Creation

- Predefined and Customizable Layouts
- Complete Professional Drafting Available
- Create 2D/3D Drawings w/o Building Models
- Stored in Same File as Model

2D/3D Drawing Creation from Models

- Associative 2D or 3D Views from 3D Wireframe, Surfaces, and Solids
- Photo-renderings Accommodated in Views:
  - As Underlay
  - As Interleave
- Associative Detail Views
- Associative Section Views:
  - With Auto Hatching
- Automatic Hidden Line
- Predefined and Customizable Layouts
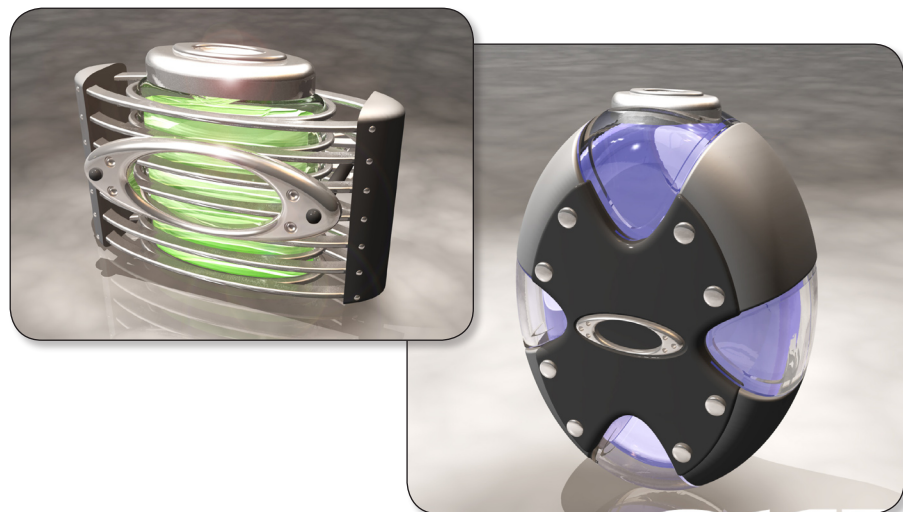- Automatic Labels:
  - View Name
  - Scale

2D/3D Drafting & Detailing

- Available for Independent and Model-driven Drawings
- Smart Dimension Tool Automatically Creates the Appropriate Dimensions
- Dimensions:
  - Linear
  - Angular
  - Diametric
  - Radial
  - Spline Length
- Standard and User-definable Tolerances and Settings:
  - ANSI
  - DIN
  - ISO
  - JIS
  - Dual
  - Architecture
  - Stacked Fraction
- Balloon and Callout Dimensions
- Predefined and User Created Hatch and Fill Patterns
- Predefined and User Created Line Weights, Colors, and Styles
- Associative Bill of Materials
- All Dimensions can be Associative, Dynamic, or Static

Continued...

Scott Oshry of Zorbit Resources designed these cosmetics bottles for Oakley.

"While initially harder to learn than Graphite, Xenon's rich 3D capabilities, once learned, provided several huge advantages over simply working in 2D wireframe."

John Bicht loved Graphite's fluidity for design but found his clients had difficulty visualizing the final product in 2D. So for marketing purposes he rather reluctantly moved to Xenon. Now he'll never go back.

Read more a www.ashlar.com/success.

X E N O N ™ v8

Photo-realistic Rendering

- Drag and Drop Materials
- Drag and Drop Decals (with Alpha Channel)
- 3D Wireframe Interleave
- Realistic Texture Maps and Procedural Textures:
    - Wood
    - Marble
    - Granite
    - Leather
    - Plastic
    - Glass
    - Metal
    - Brushed Metal
    - Automotive Paint
    - and more
- Advanced Material Editor:
    - Color
    - Reflectance
    - Specular
    - Diffuse
    - Ambient
    - Roughness
    - Bump
    - Transparency
    - Refraction
    - Texture Orientation
    - and more
- Interactive Materials Display
- Environment Maps
- Customizable Scene Presets
- Editable Light Sources:
    - Spot
    - Bulb
    - Distant
- Photo-realistic Sunlight (Location/Date/Time)
- Photo-realistic Tube and Area Lights
- Adjustable Hard and Soft Shadows
- Visible Volumetric Light Effects
- Sketch Effects (SP1)
- Fog Effects
- Backgrounds
- Raytracing with Anti-aliasing
- Production Quality Resolution &

Output (BMP, TGA, TIF, LWI, EPS)
- Multiprocessor Photo-realistic Rendering (Mac SP1)
- User-defined Presets

Camera-based Animation

- Fly-by
- Walk-through
- Sunlight Timeline
- QuickTime Object VR
- QuickTime Panoramic VR
- Direct Event Journal Recording and Playback
- QuickTime Event Recording and Playback

Import/Export

- ACIS SAT
- PDF (Export Only)
- DWG/DXF
- IGES
- STEP
- Pro/E (via SAT)
- Parasolid X_T (Windows Only)
- SolidWorks (via SAT)
- Catia v4
- 3D Studio (Import Only)
- Rhino 3DM (Import Only)
- Facet
- STL
- Adobe Illustrator
- EPS (Export Only)
- CGM
- VRML
- ShockWave 3D (Export Only)

- Bitmap:
    - BMP (with Alpha Channel)
    - JPEG
    - PNG (with Alpha Channel)
    - PPM
    - XPM
    - XBM
    - GIF
- PICT (Mac Only)
- Spline (Import Only)
- RAW Triangle (Export Only)
- ASCII Text
- Grid Surface (Import Only)
- Other Ashlar-Vellum Products

Localized User Interface

- English US
- English UK
- French
- German
- Italian
- Portuguese
- Russian (Windows only)
- Swedish

PDF Integration

- Directly Generates Non-tessellated Arcs and Splines (SP1)
- Multi-sheet (SP1)
- Imbedded Exports Optional

Available Accessories

- Graphite v8 (included)
- Cobalt Share™ for Viewing, Printing and Exporting at Client or Manufacturing Site (Free)
- Vellum:environments™
- Vellum:tracks™
- Vellum:materials™
- Vellum:decals™
- Tutorials (Free)

Recommended System

- Windows / Macintosh
- Windows XP/Vista
- Mac OS X 10.4 (PPC) 10.5 (PPC or Intel)
- Pentium 4, Xeon, Athlon / G4 or G5
- 32 MB Accelerated Video Card w/ Open GL (Standard on all business-class systems since 2005. Additional RAM will not improve performance.)
- Medium- to High-performance Workstation-class Graphics Subsystem Recommend for Real-time Environment Mapping on Complex Files
- 512 MB RAM
- 250 MB Free Hard DriveSpace / 1 GB Allocated Virtual Memory
- DVD Drive or High Speed Internet Connection

"I like to work interactively with my customers. One of the ways we can do this is by using the powerful associativity in Xenon and Cobalt."

Product designer **Kevin Quigley** used the associative solid and surface modeling found in Xenon and Cobalt to create several variations of the bath for the client, Victoria & Albert, to choose.

Read more a www.ashlar.com/success.