



**2D Drafting
Redefined**



2D Drafting Redefined



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IRONCAD DRAFT XG is a powerful 2D design environment for creating, detailing, and editing production designs. This environment offers unrivaled compatibility with AutoCAD® DWG/DXF data allowing users to share and leverage legacy design data. In addition, the environment offers a reduced learning curve by supporting command input and interactions found in AutoCAD.

While the core of IRONCAD DRAFT is 2D Design, designers often work around supplied 3D Data from multiple sources. IRONCAD DRAFT offers a unique 3D environment that supports native import/export of IRONCAD 3D and industry standard formats where users can assemble, interrogate, analyze, communicate realistic renderings/animations, and leverage the 3D in the detailing process. In the detailing process, a "3D Interface" ribbon tab is available that allows the ability to detail 3D designs using standard views, section views, detail views, and many others useful to layout the design data while having full association to the 3D data.

IRONCAD DRAFT's user interface and powerful offerings provide an efficient and productive environment for 2D detailing needs. The details below further strengthen the capabilities of IRONCAD DRAFT to meet your design needs.



Production Powerful Capabilities

Fundamental Drawing Tools

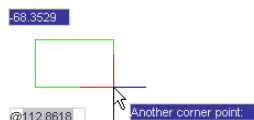
Create precise 2D entities such as lines, parallel lines, arc, circles, rectangles, elliptical curves, polygons, splines, and reference entities like centerlines and hatch patterns. IRONCAD DRAFT supports powerful input options to quickly specify size and option during creation, such as centerlines. Other utilities such as Block association, Command Editor, Format Painter, Properties Window, and the Text Editor are all intelligent functions that support quick and efficient methods to complete complex engineering tasks.

Common Editing Tools

Edit standard entities using commands such as move, copy, mirror, rotate, offset, pattern, trim/extend, and fillet/chamfer to quickly modify geometry for the design intent.

Dynamic Input Creation

Dynamic input displays tooltips for values near the cursor that



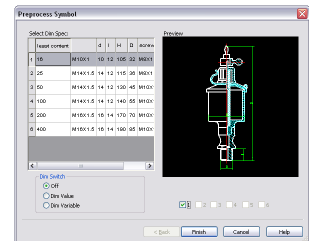
allow direct input for the geometry being created. This allows the ability to quickly input various aspects of curves during the creation in the design environment that reduces time spent in the command line input and editing.

Mechanical Focused Utilities

IRONCAD DRAFT incorporates many standard mechanical design components such as gears and fasteners to streamline normal design tasks. These components automatically generate the feature geometry based on user specified inputs which reduces the number of traditional editing commands. Quickly detail common mechanical annotations such as geometric tolerances, datum placements, weldments, chamfer, technical requirements notes, and surface finishes.

Parametric Standard Parts Provided Library

Included in IRONCAD DRAFT is the standard part design library that contains hundreds of standard parts that are parametrically driven. Users can simply drag & drop the desired part into the environment and specify the parameters to automatically create and layout the parts saving countless hours of design time.



Flexible Text Placement Options

For the annotation of drawings, IRONCAD DRAFT supports both multi-line text and single-line text capabilities, with the option of setting an unlimited number of text styles.

In-Place MTEXT Editor

IRONCAD DRAFT's In-Place MTEXT Editor will help you focus on your design and make your work experience more efficient with new and improved functions for your convenience, such as, a text formatting toolbar, a dialog box for formatting paragraphs, and a display options menu. Thus, you can create and edit text objects freely as in other professional word processing software.

Find and Replace Text Capabilities

Easily find and replace text located in drawings in IRONCAD DRAFT to update drawings or to modify legacy drawings. Using this capability can dramatically save time editing multiple text elements in a drawing.



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Table and Attribute Driven Tables

Create tables and tables with defined attributes that can be inserted and used in any design environment. Attributes allow users to set defined attributes that can be filled in once inserted into drawings to create standard data tables.

Efficient Blocks and Attributes

Define multiple objects as grouped objects to create blocks (symbols). With these you can standardize drawing components and efficiently reuse them in other drawings. Attributes can be attached to blocks to create additional data such as inventory numbers, pricing, and detailed descriptions.

Full Range of Dimensioning Capabilities

IRONCAD DRAFT supports a full range of dimension types including quick dimension, two-point, baseline, continuous, 3-point angle, continuous angle, half-dimension, large arc, ray, pyramid, and continuous curvature. These types allow the ability to place dimensions on any design to fully detail the design aspects. In addition, driving dimensions can be applied to modify 2D layouts by dimension values.

Raster Image

Insert raster images in drawings to better show off your designs, or to trace over old paper drawings. Various kinds of images can be attached, including BMP, TIF, GIF, JPG, or PNG formats. Once attached, the images can be varied in their brightness and contrast. In addition, drawings can be exported to a BMP for use in desktop publishing and Web sites.

Hatches and Fills

Hatch areas to define specific meanings such as material type. You can use solid fills (color) or predefined fill/hatch patterns. IRONCAD DRAFT supports .pat pattern files from mainstream CAD programs.

OLE

Insert linked or embedded objects into the current drawing to take full advantage of information from other applications. You can insert movies, spreadsheets, formatted documents, and more.

Real-time Pan and Zoom

Simply use the mouse to dynamically change the magnification

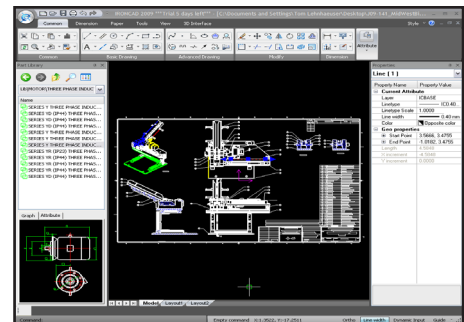
(zoom) of the drawing, and to reposition the view (pan) of the drawing area.

Quick Calculator and MS Paint Access

Quickly launch a standard calculator from the IRONCAD DRAFT interface to access standard, scientific, programmer, or statistical mathematical calculations. MS Paint can be accessed to create or edit images that can be imported into the design environment when needed.

Batch Conversion Utilities

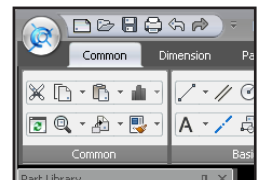
Quickly convert DWG/DWF and legacy EXB files into the latest IRONCAD DRAFT format using the Batch Conversion Utility. This provides a convenient way to update data in a common format to use within the design team.



Flexible and Streamlined User Interface

Streamlined User Interface

IRONCAD DRAFT supports the industry standard Windows 2007 Fluent / Ribbon user interface designed to streamline the design process by providing the most common tasks directly to the user in a common grouped interface. In addition, a Quick Launch (or Quick Access) toolbar is available easily access the most used commands. Users have the freedom to customize the Ribbon display and expand the Quick Launch bar and panels to better organize the layout for their particular design flow.



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Intelligent Cursor Interaction

IRONCAD DRAFT provides various cursor interactions to provide a fluid and efficient design environment. User can set the cursor mode to intelligent, grid, free and guides to provide feedback during cursor movements. In addition, standard navigation can be set to orthogonal, polar axis and three-view navigation-aided drawing methods. The system automatically captures feature points and virtual feature points optimizing the interactivity in the environment. At any time adjust the interactive options to improve the design time to create, navigate and edit the design.

Multiple Document and Tab Environments

You work more efficiently with IRONCAD DRAFT's Multiple Document Environment which allows you to open up to multiple files in a single session and work between the documents for a parallel design environment. In addition, IRONCAD DRAFT provides a Multiple Document Tabs which lets you quickly select tabs to access multiple open documents.

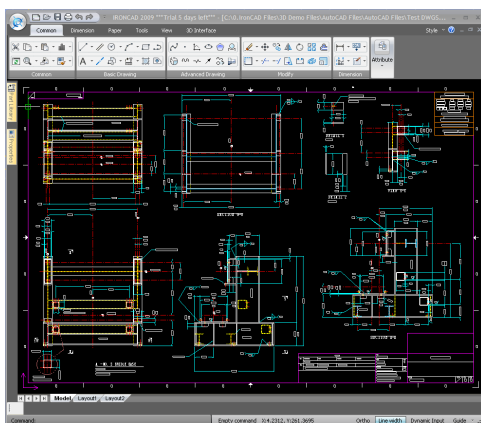
Layers and Properties

Create layers and manage layer properties easily and efficiently. Control how objects are displayed and plotted including curves, dimensions, symbols and the bill of material. Use layers to reduce the visual complexity of drawings, and improve display performance.

Multiple Redo and Undo Capabilities

Back track your recent actions more conveniently and efficiently. The undo/redo list allows you to undo/redo several actions or just a single action at once.

Unrivaled Compatibility with AutoCAD™



DWG/DXF Support

Open, edit, and save any existing DWG file generated by AutoCAD® from version 2.5 to 2010. Full import support of AutoCAD data structures. Direct read and editing of text, section lines, polylines, blocks, multi-line, forms, and other data directly corresponding to AutoCAD layers such as line types, annotations, and text styles to avoid dislocation and garbled text that occurs. Support for images and OLE objects stored in AutoCAD files. In addition, there is full support for AutoCAD application modes including multiple windows, multi-formats, multi-standards, multi-lingual usage and multi-paper space environments.

Customization & Programming

Customizing the Interface

It is easy for you to customize the IRONCAD DRAFT user interface. You can modify menus, toolbars, keyboard shortcuts, and command aliases to meet your particular needs or company standards.

CRX - Powerful Application Programming Interface

CRX is a new application programming interface (API) that is similar to ARX. As one of the most powerful APIs in IRONCAD DRAFT, CRX enables developers to directly access DWG database, customize entities and migrate their former ARX applications to IRONCAD DRAFT quickly.

Communication and Sharing

Freely Distributable EXB Viewer

IRONCAD DRAFT includes a freely distributable native .exb file format viewer - "EXB-Viewer". Users will be able to visualize IRONCAD DRAFT files saved in the standard .exb file format. The EXB-Viewer can be distributed to non-IRONCAD DRAFT clients to allow you to keep your team and customers closely involved in your projects.

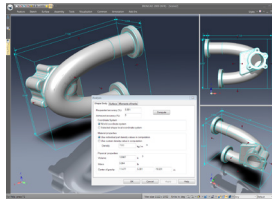
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Full 3D/2D Association

IRONCAD DRAFT can leverage 3D data in the 2D detailing process to easily create automatic standard, section, detail, and other view layouts. Modifications performed in the 3D will automatically update the generated views to ensure that the design has the proper detailing information. In addition to the layout capability, association is automatically created for intelligent information stored on the 3D such as bill of material information and critical dimension callouts which increase productivity by avoiding manually creation of this information in the detailing phase.

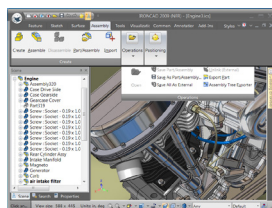
Model Verification and Interrogation

Open IRONCAD 3D data or import industry standard formats including ACIS, Parasolid, IGES, STEP, Pro/E, and CATIA along with a large variety of graphical formats to perform model verification and interrogation to ensure proper design integrity and design feasibility. This capability enhances the 2D design capabilities by providing form, fit, and function capabilities which are difficult to achieve in 2D by itself. For example, you can analyze the models for center of gravity and mass calculations as well as interference detection. Use Smart Dimensions® to apply constraints for building mechanisms to detect proper motion and collision detection.



Assembly Design

Import various designs from your suppliers to build a complete assembly design. Use powerful tools such as the TriBall® to easily position and orient objects in the assembly. Once the assembly is created, refer to the 3D in the standard 2D detailing process to create production designs. Updates made to the assembly automatically update associative generated 2D layouts reducing time in the 2D recreating or modifying multiple design windows.



Powerful Interface for Design Communication of IRONCAD Data

Using IRONCAD, companies can create standard parts and assembly components that can be stored in the Catalogs that

can be leveraged in IRONCAD DRAFT to build assemblies and detail in the 2D environment. Intelligent information can also be stored in the part/assembly catalogs to provide SmartAssembly® capabilities allowing the ability to quickly create design concepts that automatically position and size based on company specified rules. Using these capabilities, companies can quickly build custom designs at customer sites that can be directly used in the 2D detailing process. This can dramatically reduce the overall design time and communicates the product design directly with customers that lead to the right products delivered on-time.

Communicate with Realistic Renderings

3D Designs can be communicated using IRONCAD Drafts powerful realistic rendering capabilities. Drag and Drop SmartPaints® on parts and assemblies from the numerous material catalogs to quickly apply the desired look. Perform the rendering using sophisticated rendering techniques including super-sampling (a form of Antialiasing), Global Illumination, Radiosity, Caustics, Direct and Indirect lighting, and much more. In addition, IRONCAD DRAFTS rendering supports multi-threading to allow you to create realistic renderings while still working in the application environment. Once complete, export the rendered image into a variety of standard image formats for communication. In addition, leverage the exported images in the 2D detailing process for documentation or assembly manuals to enhance illustrations and communications.

Demonstrate Design Concepts with Animations

Sometimes a rendered image may not fully communicate the design intent. Use IRONCAD DRAFT's full featured drag and drop animation capabilities to build motions and fly-through animations to better communicate the design.

Share 3D Designs

During the design process, users need to communicate with other members. IRONCAD DRAFT allows the ability to send images, animations, and 2D/3D files for communication. In addition, standard viewers are available for download to allow direct reading of the 2D/3D designs.

