TurboCAD Pro Platinum 18

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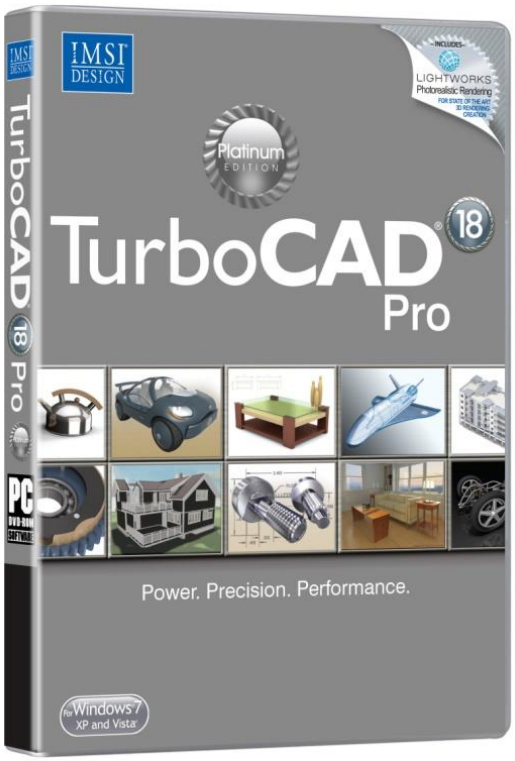
Introducing New TurboCAD Pro Platinum Version 18

TurboCAD® Platinum Pro is our most comprehensive CAD product for 2D and 3D design, documentation, detailing and modelling.



What's Extra in the Platinum Professional Edition?

In addition to all the powerful tools found in TurboCAD Pro, the Platinum version includes additional advanced mechanical and architectural design tool.

This Platinum product includes all of the advanced features necessary for both architectural design and more specific mechanical design tasks. Due to the breath of mechanical and architectural tools, this Platinum Edition is also perfectly flexible for users whose projects cross disciplines:

- ✓ Designer-builder and Contractors
- ✓ Electricians and Plumbers
- ✓ Structural and HVAC Engineers
- ✓ Paint Designers

And so much more...

IMSI® DESIGN

RRP: £1,016.17

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New Features:

New! Blocks; new “Sync Block Attributes” button added to the Block Palette. At any time you can select any block(s) and press the Sync button to reset attributes in all block(s) instances.

Improved! Construction Lines; now use construction lines as cutting edge for Trim Tool. Plus the edit tool now works with Construction Lines and Rays allowing you to rotate and reposition.

The Split tool can now also be used on Construction Lines to create Rays.

New! Copy In Place Tool; works on all 2D and 3D objects.

Improved! Drafting Palette; the distinction between ‘Surface’ and ACIS Body’ removed for simplified operations.

New! Multi- select Drawings; ability to open multiple drawing with Open command.

Improved! Stretch Tool; improved rubber-banding of objects. Improved visualisation for more precise control of stretched objects.

New! Ray Tool; providing a new ability to create Rays. Rays can be created from scratch or by using the Split tool on an existing Construction Liner.

Improved! Fillet (2D) Tool; new ability to fillet bulges (polyline comprised of line and arc segment). Plus new ability of re-filleting previously filleted segments.

New! 3D Fillet; new tool for filleting 3D polylines.

Improved! Simple Extrude; ability to use a Text object as a compound Profile with the Simple Extrude tool.

New! House Wizard; a timesaving tool used to create a preliminary room-by-room design of a home.

Improved! Dimensions; dynamic dimensions are displayed when doors/windows are inserted (showing distance from door/window) to wall ends. Plus, corresponding fields are added to the inspectors bar.

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Further New Features:

New! **Walls**; Automatic top wall modification when changing roof slope. For instance for a Gable Roof (90 degree Roof Slope) user has to use the Wall Modifier to close the space (freeze) left by the gap created with this move.

New! **Network License Support**; allowing companies to purchase a license for an arbitrary number of copies of TurboCAD.

Improved! **DWG/DXF Filters**; continued enhancements and bug fixes to 2010/2011 filters.

New! **PDF Underlay**; ability to import (raster) PDF and use it as a tracing layer with snaps.

Improved! **SDK**; updated with samples and .NET support.

New! **Ruby Scripting Language**; compatible with SketchUp Ruby scripts. Use Ruby Scripting Console for writing program scripts suitable for both mechanical and architectural design.

Improved! **SKP (Google SketchUp) Filter**; SketchUp v8 Read and Write support added.

New! **Assembly Tools**; three new modes of Assembly By Axis Tool makes assembly much faster. Also, new ability to work with XRefs and insertions.

Improved! **ACIS® Multi-Thread Support**; use multi-thread abilities to perform ACIS operations with two and more bodies.

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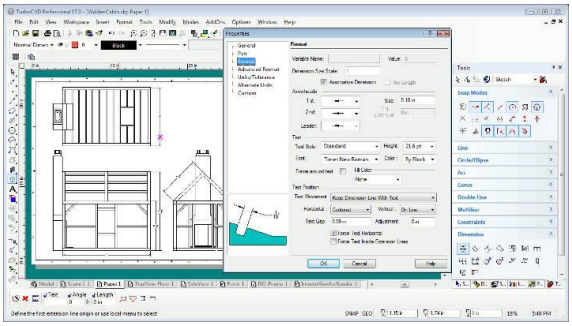
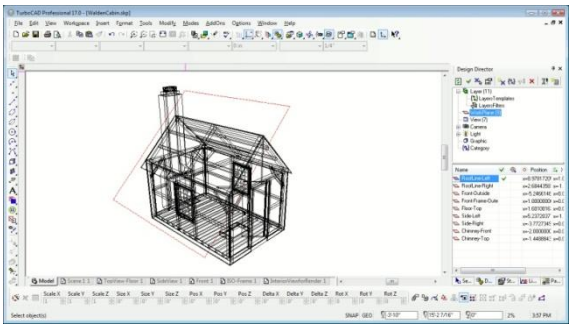
Walls & Compound Walls

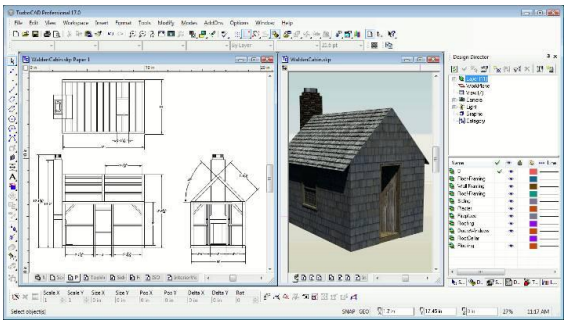


TurboCAD® Pro Platinum provides the tools to quickly design floorplans by using the wall tool. Self-healing straight or curved walls speed design over conventional drafting tools. Cleaning up intersections, moving walls, adding columns, windows, doors, and more is tedious with standard double lines, but not with the Wall tool. And because the walls have height, and with both bottom and top wall modifiers for custom shapes, the full 3D design is quickly underway.



Not only do walls heal properly and automatically at intersections, but they may be easily moved, cut, have openings inserted, and through the styles manager, may be made into compound walls with different wall styles selected. This adds appropriate hatches and fills, line weights, colours, and more for each layer of the wall. Different styles may be made for interior, exterior, load-bearing, non-load-bearing, or any other type of wall you design.

Polylines may be converted to walls, and then styles applied, to quickly modify or start a project. Blocks, whether standard, imported, or created on-the-fly, may be inserted into walls, and the walls will heal and automatically align the blocks.



As an integrated set of architectural tools, the walls also treat parametric AEC Door and AEC Window objects accurately and heal correctly, and the walls share information with the Roof and Slab tools for auto-generation of correct dimensions and roof lines.

Because the walls are AEC objects recognised by AutoCAD® object enablers for AutoCAD Architecture, a project with self-healing walls started in TurboCAD Pro will continue to be self-healing in AutoCAD, making even the AutoCAD experience better as well.

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Parametric Doors and Windows

TurboCAD Pro Platinum provides parametric AEC door and AEC window objects. They are style driven, and multiple door and window styles may be created. These TurboCAD AEC objects are AutoCAD® Architecture (ACA) compatible so that .DWG models with ACA extensions may be read, modified, and documented as needed.

There are numerous door and window types and shapes available for use in creating your architectural drawing. These existing types and shapes can all be edited in the Style Manager to create an unlimited number of new door and window styles. Custom profiles may also be used for unique shapes. And with version 17, door and window muntins may be added well. Click on the Video tab above to see a demonstration of customising a window design using muntins.

Window Types include: Picture, Single Hung, Double Hung, Awning Transom, Double Casement, Glider, Hopper Transom, Pass Through, Single Casement, Single Hopper, Single Awning, Vertical Pivot, Horizontal Pivot, Uneven Single Hung, Uneven Double Hung.

Window Shapes for each of these Window Types include: Rectangular, Round, Half Round, Quarter Round, Oval, Arch, Trapezoid, Gothic, Isosceles Triangle, Right Triangle, Peak Pentagon, Octagon, Hexagon. And using the Profile Manager, custom shapes can be made as well.

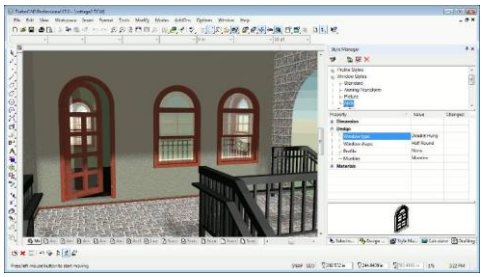
Door Types include: Single, Double, Single-Dhung, Double-Dhung, Double Opposing, Uneven, Uneven-Dhung, Uneven Opposing, Bifold, Bifold-Double, Pocket, Double Pocket, Sliding Double, Sliding Triple, Overhead, Revolving, Pass Through, Accordion, Panel, and Communicating.

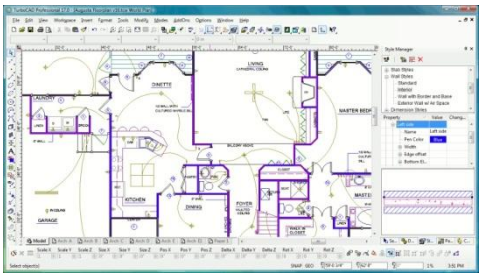
Door Shapes include: Rectangular, Half Round, Quarter Round, Arch, Gothic, and Peak Pentagon. Also using the Profile Manager, custom shapes can be made.

These items are intelligent as well as parametric. This means they work well with other architectural tools — doors and windows communicate with the auto-generated Schedule tool, and they understand how to interact with walls.

AEC doors and windows that are inserted into self-healing walls are also recognised by AutoCAD object enablers, so they will be accurately represented in AutoCAD, AutoCAD LT®, or AutoCAD Architecture even though neither AutoCAD, nor AutoCAD LT have the tools necessary to create them (for that you need ACA, DoubleCAD XT Pro, or TurboCAD Pro).

This is yet another productivity advance over simply using standard blocks, double lines, and tables in AutoCAD LT.





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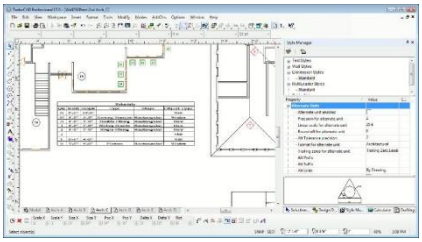
Stairs, Rails, Slabs & Roofs

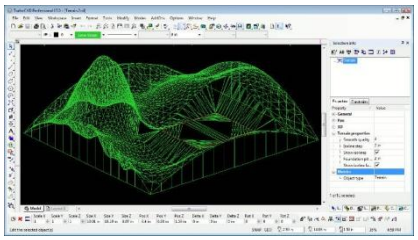
TurboCAD Pro Platinum can automatically generate roofs or slabs from wall objects. It understands the wall definitions and shapes, including arc walls, and generates the right rooflines based on object property settings for overhangs, pitch, and more. Roofs can be easily modified for different slopes on different faces as well.

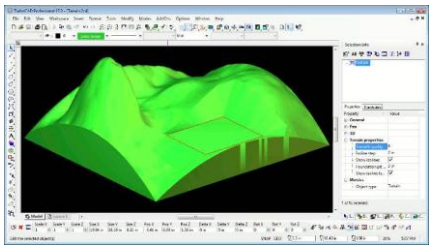
Slabs such as concrete spandrels or others can be created in a variety of shapes and sizes. Holes can be added in different shapes and dimensions based on closed polylines to accommodate columns, elevator shafts, or stair wells.

Stairs may be added and managed parametrically, whether straight, curved, spiral, u-shaped, multi-landing, or another configuration. Their properties can be managed to determine the specific riser height, width, number of steps, and easily define landing styles and turns.

Rails can be added to one or both sides of stairs with a click, and can even be placed without stairs for use along the edge of balconies, or in a basic configuration for fences. Object properties that can be defined include rail locations, post locations, rail extensions, and styles may be created for those rails to be applied elsewhere.







Terrain

The TurboCAD Pro Platinum Terrain tool lets you create a topographical terrain, represented by a triangulated network. You can create a terrain from scratch, or import coordinates from a file. There is also a smoothing function that allows you to automatically increase the triangulation, creating a smoother surface area. Each node in the triangulated mesh can be edited individually, and it is very easy to add or remove nodes as needed.

The Terrain Modifier tool allows for sections of terrain to be levelled, and slopes to be created around those shapes. This quickly simulates the grading of sites within a terrain for a proper view of site plans.

The Import Terrain function works with terrain data in a .txt or .xyz file. The format for each coordinate is presented with X, Y, and Z values, separated by commas or spaces. All values are relative to the origin of the terrain you specify during the import function, whether 0, 0, 0, or another location.

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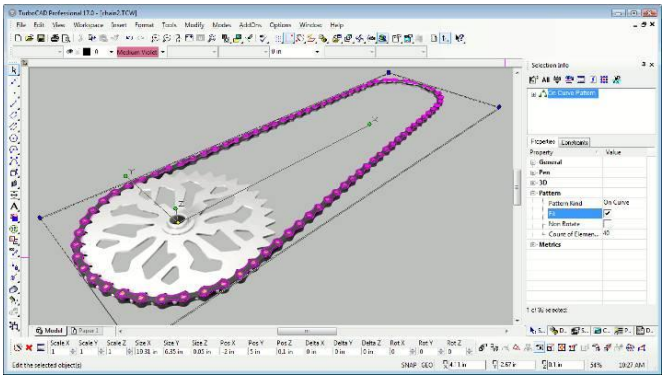
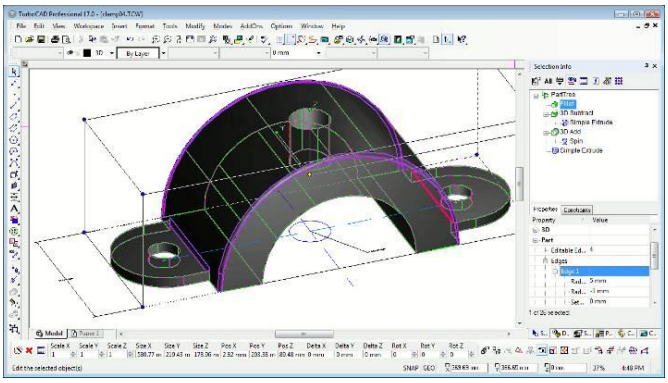
Platinum Constraints

TurboCAD® Pro constraints are enhanced in the Platinum Edition through two additional constraints. The first is a Midpoint Constraint, and the second is the ability to create pattern constraints.

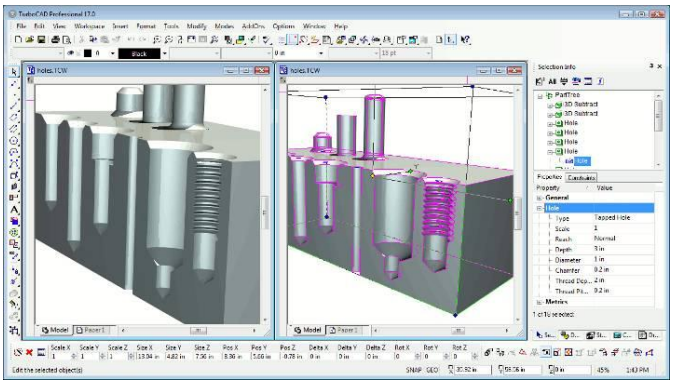


Pattern Constraints

Pattern Constraints are not a specifically defined tool, but use the power of constraints, dimensions, and array tools to allow for parametrically defined arrays of drawn objects. What this means is that you can draw any 2D geometry, turn on autoconstraints, and then use any of the array tools to create your array. The relationships between the distances of items, like the dimensions of the items themselves, can be defined by creating variable dimensions. Those variables are then managed by in the Calculator Palette.



The variable dimensions may be used to define offsets, separation, angles of offset, and more. This is most powerful when creating designs for mechanical parts. Patterns appear in keyboards, telephone pads, ventilation gaps, and more. The patterns may also be used for laying out parking strips, cubicle designs, or for indicating where upon a surface to later place windows, ornaments or other architectural elements.



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Advanced Design Tools

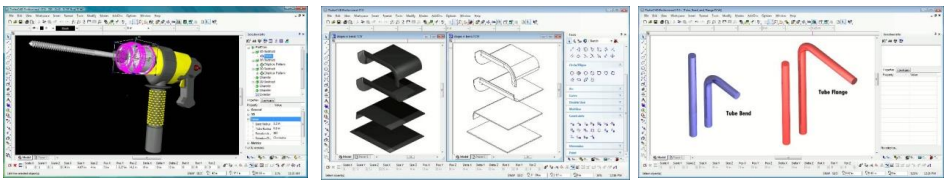
A number of design tools are available in TurboCAD Pro Platinum for 3D solid and surface modelling. These tools can enable the creation of parts that might not have been entirely possible in some cases, or which would have been far more difficult to create. Among them are:
Thread Tool — Easily create threaded 3D objects. The pitch and height of threading are parametrically defined and editable.

Twisted Extrude — Create a wide variety of twisted extrusions with this simple extrude tool that offers added parameters including twist angle, distance type, normal, full height, twist to top, twist start distance, twist end distance, and twist continuity (G0, G1 or G2).

Extrude to Face — Now extrude or subtract a face of a solid to either another face of a solid or to a surface.

Parametric Holes with Boss Hole Type — Create parametric holes in objects in a few easy steps and modify the properties at any time including an option for easy parametric cylindrical bosses.

Imprint — Save up to 3 steps by optionally combining Booleans with the Extrude, Blend, and Chamfer tools in one single procedure. New dimple feature enhancement makes sheet metal work easier with this tool.



Advanced Part Tree

Although there is a Part Tree capability in TurboCAD Pro basic edition, the capabilities of the Advanced Part Tree are staggeringly more powerful! Each of the Pro Platinum design and modification tools, and most of the 3D primitives, and basic edition 3D design and modification tools may be driven by the Advanced Part Tree.

The Part Tree can be viewed as a selective UNDO/REDO tool: adjust the parameters of a bend, an offset, or a flange without having to UNDO the design steps that have been made to the model since the parameter of that object were originally set. Each subsequent step will be applied correctly on the newly updated geometry.

The TurboCAD Pro Platinum Part Tree includes this critical aspect of parametric design: by adjusting a value of any one action taken at any time during the design phase, the entire part is properly updated.

Another example of the power of the Part Tree is when using Boolean operations on two extrusions of 2D profiles. By moving one, or changing a profile, the entire extruded profile and Boolean operation are automatically updated. This is often referred to as history-based editing.

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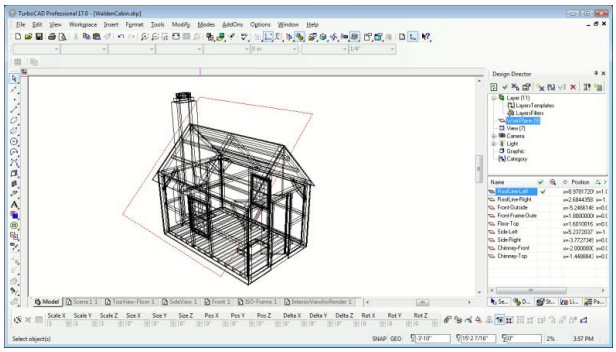
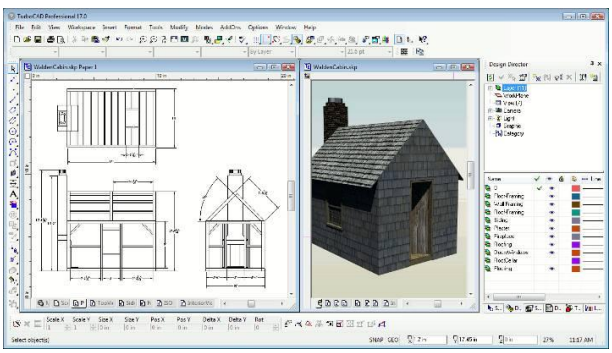


2D Design & Drafting

TurboCAD includes many tools to aid in design and drafting functions.

It all begins though with fundamental drawing tools and in that regard TurboCAD Pro is rich. Included in the program are:

- ✓ 14 basic line tools including irregular polygons, perpendicular, parallel, and tangent lines
- ✓ 8 double line tools (but there are also self-healing architectural wall tools)
- ✓ 8 multiline tools including polyline and polygon tools
- ✓ 11 circle tools including 3 methods for drawing ellipses
- ✓ 13 arc tools including tangencies, point fitting method and 3 elliptical arcs
- ✓ 5 point tools from dots to crosses and even stars
- ✓ 6 curve tools including Bezier, freehand sketch, and convert to curve
- ✓ Index colour and true colour support
- ✓ Custom brush style editor for combining colours gradients, hatches, and transparency
- ✓ 9 types of Ray and constructions lines for projecting non-printable construction lines
- ✓ 13 basic object snaps with controllable Osnap priority including parametric Divide By segment snaps
- ✓ Extended ortho and apparent intersection for geometric aids
- ✓ A fully parametric grid
- ✓ Easily parameterised ortho angular system



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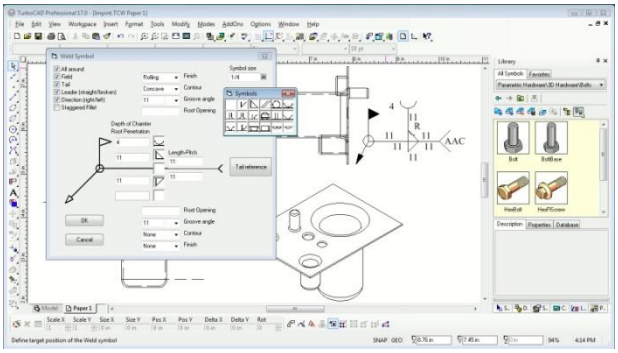
The Drafting Palette – One of the Most Powerful and Unique Features

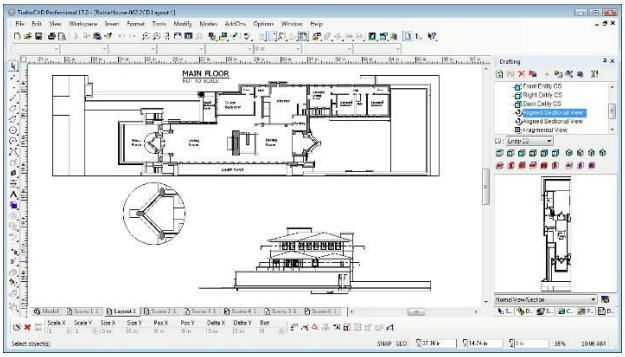
The Drafting Palette distinguishes between surface and ACIS solid models automatically, turning 3D designs into associative 2D manufacturing or construction drawings, even when working on an Xref. This means your sectional views and elevations in Layout (Paper Space) will update automatically as the model changes.

For mechanical design, this means parts and assemblies can have all standard views, 2D or 3D sections, and detailed views chosen by selection; or created as a derivative of an existing view.

Dimensions for solid model objects are associative too so they update automatically and scale correctly in Paper Space; and geometry is recognized so that individual parts may be separately hatched or include different line weights and colour.

The solid model engine works with SAT objects in AutoCAD .DWG files, objects created with any 3D ACIS® Modeller, or saved in IGES or STEP format.





For architectural design, a 3D model from SketchUp (.SKP), Rhinoceros® (.3dm), AutoCAD Architecture (.DWG), or other application may be used to create elevations, floorplans, sections, even detailed views, all of which are associative to changes in the model.

With every section, each element may be hatched, coloured, or have its line weight and style adjusted as needed, with separate controls for visible and hidden line. A section line depth setting was also added with version 18.

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Parametric Constraints

Parametric Drawing
Parametric drawing provides precision and productivity. You have greater control to enforce design intent, and may very quickly modify a design by using geometric and dimensional constraints. The Calculator Palette allows you to set values to driving dimensions, including formulaic relationships between objects, and using any of the functions shown in the image at right.

Geometric Constraints
Geometric constraints determine the relationship of two pieces of geometry with each other. TurboCAD® Pro supports the following geometric constraints:

- point to point coincident
- point to line coincident
- parallel
- perpendicular
- tangential
- concentric
- symmetrical
- horizontal
- vertical

Dimensional Constraints
Dimensional constraints determine the size of geometric entities. TurboCAD Pro supports the following dimensional constraints:

- equal radius
- equal length
- equal distance
- distance
- length
- angle

Proven Technology
This valuable TurboCAD Pro feature includes the D-Cubed™ 2D DCM constraint manager from Siemens Industry Software Limited — This is the same trusted engine used by far more expensive design platforms such as AutoCAD®, Autodesk Inventor®; by Dassault Systems for CATIA and SolidWorks®; by Siemens Industry Software Limited for NX and Solid Edge; and by think3® for thinkdesign.

Symbols Library

Symbols and parts, like Blocks and groups, are a valuable part of any CAD application. While Blocks and Groups are internal to a drawing, library items are external files. Generally, symbols are stored in a file, and categories of symbols are stored in Windows directories that can be loaded as separate libraries. Any vector drawing that may be read by TurboCAD can be used as a symbol, not simply .TCW files. This means, for example, that a favourite collection of .SKP components may be used and loaded this way.

TurboCAD Pro comes complete with a number of sample symbols as well as a much larger collection of parametric parts. The parts are also kept in libraries and are accessed like symbols. The difference is that these parts are parametrically driven. Those parameters may also be revised after they have been inserted in the drawing. Parametric Parts may be created with the Parametric Parts Manager.
Examples of these parts include desks whose length, or number of drawers, can be changed; bookshelves whose height, width, and number of shelves may be changed; and varieties of nuts, bolts, fittings, doors, windows, and more.

Special Symbols

TurboCAD Pro also includes several special symbols used in certain types of annotation that help in communicating with manufacturers. They include the Weld Symbol, Surface Roughness Symbol, Geometric Tolerance Symbol and Adhesive Symbol. Technically the Weld Symbol, Surface Roughness Symbol, and Geometric Tolerance Symbol are among the Special Tools section, but the output are parametric, editable symbols. The Adhesive Symbol is a parametric part and is therefore also an editable parametric 2D symbol.

The Weld Symbol communicates finish, contour, depth of chamfer root penetration, groove angle and more. The Geometric Tolerance Symbol provides information about allowable deviations of form, profile, orientation, location, and runout of a feature. The Surface Roughness symbol communicates the type of roughness, the minimum and maximum heights, waviness, and more.
The Adhesive Symbol is a fully parametric part that may be adjusted through the Selection Info Palette. It includes dozens of parameters for the Surface Preparation, Application Method, Cure Method, Adhesive Physical Form, and Adhesive Technology Family.

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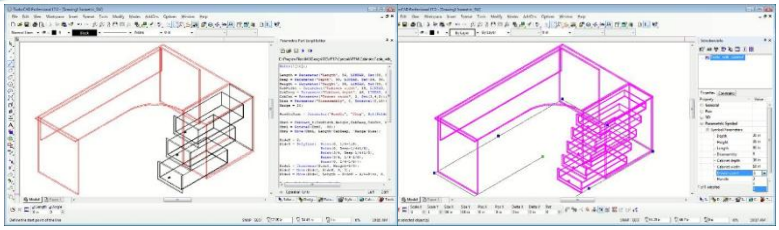
Parametric Parts Manager



The TurboCAD® Pro Parametric Parts Manager allows you to create and consume parts that remain parametrically controlled even after insertion in the drawing. They are a bit like a 3D dynamic block, an AutoCAD® dynamic block, or a SketchUp™ dynamic component.

The key difference is that parametric parts (.PPM files) may be defined using a text description (script). The script defines the structure, editable properties, and outputs that result in a parametrically editable part.

There is also a method to draw variably constrained parts and convert them to parametric parts using a wizard. This dramatically simplifies creating simple .PPM objects that don't need the full power of all the functions available in scripted parts.

Now with v17 there is even some "beta" functionality to allow you to open a SketchUp file that contains Dynamic Components and have them converted into parametric parts.

Documentation for the Parametric Parts Manager has been greatly enhanced in version 17, with excellent support for creating and using parts on the TurboCAD Community Forums.

Because the parts can be saved individually, like a symbol, libraries of .PPM objects can be created, shared, and reused from project to project.

Simple examples could be to create a dynamic picket fence, or balustrade. Designing furniture of different lengths or seating configurations: chairs with or without arms, couches or tables of 6' or 8' lengths, bookshelves with different configurations. Mechanical parts that come in differing sizes and configurations may also be easy to design.

Another use for .PPM objects is to create 2D symbols. Imagine in landscape architecture if you had plants with a different appearance for different seasons, or for different growth sizes at 1 year, 5 years, and 15 years size. The uses are endless.

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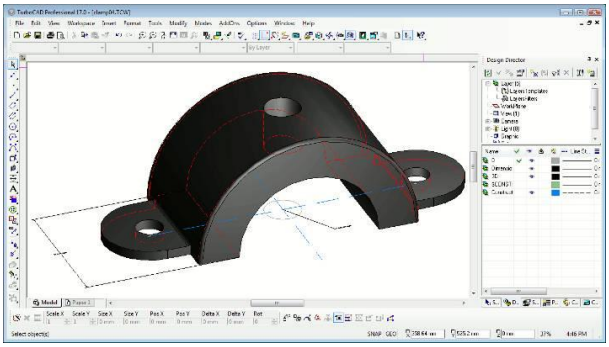
3D Modelling



TurboCAD® Pro supports both surface and solid modelling, and includes tools built on the 3D ACIS® Modeller (ACIS) from Spatial. It is the same engine used in 350 applications with more than 1.5 million seats worldwide, so you know you will have a standard format for interoperability.

TurboCAD Pro now uses v20 of ACIS for realistic, complex 3D object creation. This latest update is faster and more reliable than ever.

Information for objects include data crucial for engineers, such as Volume, Moment of Inertia, Centre of Gravity, Surface Area, and more.

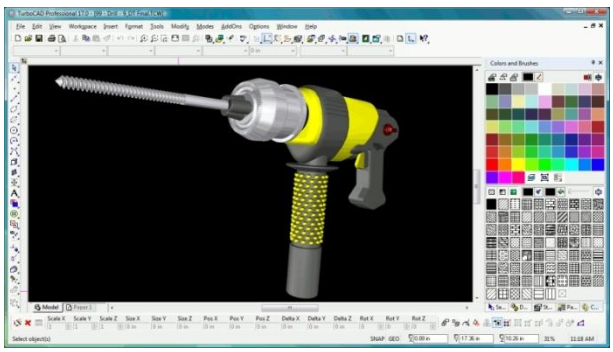
Solid modelling editing and modification tools include: Several Rail, Sweep, and Revolve functions

Facet and Edge modifiers

Extrusions and Lofts of Compound Profiles

Face-To-Face Lofting and Branch Lofting

Sectioning, Slicing, and Boolean operations



TurboCAD Pro supports Profile Editing, whereby a 2D profile, once created, can be used to drive the creation of a 3D object. In this way the shape of the 3D object may continue to be driven by the 2D object which may itself be driven by Constraints and Driving Dimensions through the Calculator Palette.

TurboCAD Pro also maintains a design history when its Part Tree feature is enabled. With the Part Tree, you may return to any procedural step in your design and make modifications without losing subsequent work. Think of it as a bit like a selective UNDO.

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Design Director

The TurboCAD® Pro Design Director is a palette that provides advanced controls for Layers, Layer Filters, creating Layer Sets, setting and saving Work Planes, controlling Named Views, and more. In particular, it streamlines work, enhancing productivity.

Layer management from the Design Director palette is fast and easy. It can remain always open, and provides numerous powerful tools for managing visibility, colour, line widths, line styles, and more.

Beyond standard layer management, using Layer Filters allows for quickly selecting all layers with any number of criteria as wild cards. For example, one filter can turn on visibility of only layers with “2ndFloor” included, and another with “Wall” as part of the name. TurboCAD also reads Layer Filters from other .DWG files so that working across applications is smooth. A powerful element of Layer Filters is that they work beyond file naming to include selecting layers by line style, pen width, print style, and more.

Layer Sets also can be created, and using either of these features lets you quickly change the visibility of large groups of layers with a single click. These filters and layer sets even include layers within externally referenced files, such as a .SKP, .DWG, or another .TCW file.

Applications such as TurboCAD and AutoCAD® require an understanding of work planes and how to easily switch between work planes as an import part in productivity. Now you can simply set the User Coordinate System (UCS) by selecting a facet (one of 9 ways to set the UCS now), then save the UCS by name to a table in the Design Director, and from then on you can easily switch between different workplanes by selecting from a named list.

Another setting within the Design Director is control over the Named Views. Easily jump between views with a single click when the design director is open. Combine this with the power of setting the UCS and setting the 3D View by the Current UCS, and you can set perfectly aligned views to any workplane in the model.

These are just a few of the productivity advantages the Design Director palette provides.

TurboCAD Pro Platinum 18

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Rendering

TurboCAD Pro provides several render modes in which to work, or present your designs. New to TurboCAD Pro 18 is Technology from Redway3D® has been added to wireframe, hidden line, and draft rendering modes and providing a wireframe render mode that utilizes the power of supported on-board GPU or graphics boards. (Most boards and GPUs should be supported, see system requirements for more information.) This Redsdk render mode provides up to 60x speed improvements on CPU-based rendering when panning, zooming, and orbiting. It also provides smoother movement. It is most noticeable on larger models, whether 2D or 3D as long as they are viewed in wireframe mode.

Rendering – Artistic

TurboCAD Pro includes a Render Styles Manager with preset configurations for many types of renders, including artistic styles and photorealistic styles. The artistic styles are called Sketch Renders. Among the Sketch Styles are:

- ✓ Cartoon
- ✓ Colour Wash
- ✓ Colour Contour
- ✓ Gray Contour
- ✓ Hatch
- ✓ Hand Drawn
- ✓ Ink Print
- ✓ Lines and Colour Fill
- ✓ Lines and Shadow
- ✓ Mosaic
- ✓ Oil Painting
- ✓ Rough Pencil
- ✓ Soft Pencil
- ✓ Stipple

Rendering – Lighting & Luminance's

There is also robust support for lighting and luminance. Lights are OpenGL based, are quick to add and use, but are more limited in their options than Luminance (see below). Lights may be added with a click, and their properties adjusted in the Design Director, which also enables creating light sets that can be turned on or off as a group. Light types include:

- ✓ **Ambient**
- ✓ **Directional Light — has an origin and a direction, providing an infinite light that does not fade with distance**
- ✓ **Headlight — provides a Directional Light sourced at the camera source sot that it is always illuminating from the user's vantage point**
- ✓ **Point — provides light equally from all directions**
- ✓ **Spot Light — provides a directional light emanating from a point and projecting in a cone**
- ✓ **Sky Light — a simple directional light source that simulates outdoor sunlight**

Each light has many different properties that can be managed, including the colour; intensity; fall-off; shadow softness; and more. Some that are directional specific may include properties such as the beam sharpness, penubra and umbra (the angle of the cone of light and the darkness in the centre of the beam, useful for flashlights).

Luminance's include advanced lighting properties that can be assigned to the whole model, or to specific objects within the model. Any number of lights may be combined, so that an Ambient luminance may be used, then augmented by other lights and luminance's. Luminance's include:

- ✓ Ambient — illuminates all surfaces equally, regardless of orientation
- ✓ Area & mdash simulates a luminous surface
- ✓ Area Goniometric — combines both area light and goniometric properties
- ✓ Area Sky — limited Sky light covering the light that passes through portals such as a window or door
- ✓ Distant — illuminates consistently, is directional and parallel
- ✓ Eye — sourced at the view point
- ✓ Goniometric — directed light defined by an .ies file (a text-based file) often provided by lighting manufacturers for their bulbs or fixtures
- ✓ Point — emanates from a single point in all directions
- ✓ Projector — projects a graphic image onto a solid object based on a raster image file, and which is often combined with environmental dust or fog to catch the beam as at the cinema
- ✓ Simple Environment — lights a scene based on an environmental map such as an HDR image, or even a .jpg or .png file
- ✓ Simple Sky — lights the model based on a uniformly bright hemispherical dome
- ✓ Sky — light that simulates a sky light providing soft and natural shadows and is modelled as a hemisphere of infinite radius and positioned above the centre of the model
- ✓ Spot — provides directional light that is constrained to a cone
- ✓ Sun — projects a spot light from a very distant point to simulate outdoor sun lighting, and which, when combined with Sky lights provides a realistic rendering effect

TurboCAD Pro Platinum 18

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Photorealistic Rendering

TurboCAD® Pro provides extensive support for photorealistic rendering including a new and improved Light Works rendering engine. After adding lighting, luminance, materials and their finishes, there are several standard render modes. Draft, Quality, and Advanced.

TurboCAD includes a Render Styles Manager with preset configurations for many types of renders and includes a quick method for setting depth of field, for example, or overall luminance properties based on weather conditions including Clear Sky, Cloudy, Hazy, Overcast, Twilight Clear, Twilight Hazy, Night Full Moon, and many others.

When performing a quality render, TurboCAD has the advantage of being able to pre-calculate multiple render scene variables in order to more quickly render than typical for ray tracing. The advanced render mode includes controls for dozens of settings should you choose to use them. It is a fully-featured rendering application built directly into TurboCAD.

TurboCAD photorealistic rendering is based on the LightWorks engine from Lightwork Design, long a leader in photorealistic rendering. The rendering includes advanced ray-traced biased rendering techniques.

Among the many features available:

- ✓ Ambient Occlusion
- ✓ Global Illumination
- ✓ Final Gathering
- ✓ Alpha-Channel Transparency Support
- ✓ Volumetrics, including fog, ground fog, dust or more
- ✓ Parametric Cloud Environments
- ✓ HDR image or basic raster image background environments.
- ✓ Depth of Field
- ✓ Render lines, hidden lines
- ✓ Shadow Catcher
- ✓ Flat, Gouraud, Phong, Flat Open GL, Smooth Open GL, Raytrace Preview, Raytrace Full and Radiosity Render Modes
- ✓ Render to file, up to 16,000 x 16,000 pixels.

TurboCAD Pro Platinum 18

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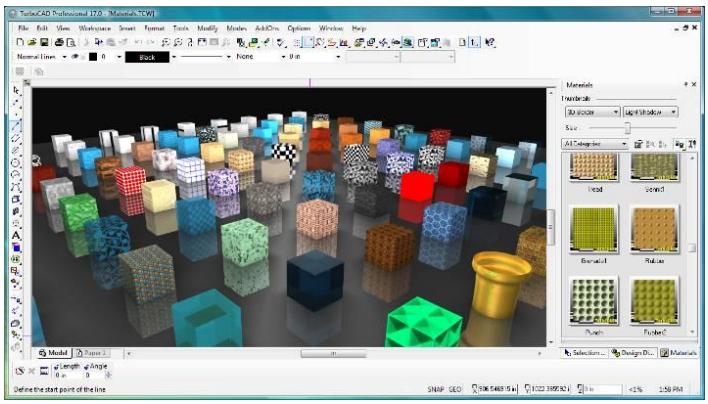
File Interoperability

TurboCAD® Pro includes support for dozens of CAD and graphics file formats, making it an excellent part of almost all the most common workflows between partners, contractors, and others. Open, import, or embed up to 35 file formats and export up to 28, including .DWG, .DXF, .SKP (Google SketchUp™), .3DM (Rhinoceros®), .3DS (Autodesk® 3ds Max®), IGES, STEP, .OBJ, COLLADA (.DAE), and .2CD (DoubleCAD™); vector formats include .SVG and a newly updated .EPS; raster formats include .BMP, .GIF, .JPG, .PNG, .TIF, and more. TurboCAD 18 now reads and writes .DWG and .DXF files from R14 through 2011, including AutoCAD® Architecture extensions, and Google SketchUp™ files up to version 8.

- ✓ This broad range of file formats helps to maintain your intellectual property investment supporting older files, models, and parts.
- ✓ It also makes it easy to access parts from vendors or posted on model exchange sites like the Google™ 3D Warehouse. Additionally, you can export models to sites like Google Earth (via Collada .DAE support)..



File Interoperability

When saving to COLLADA, there is a Setup option to Save Blocks and Layers. If the application that imports the .DAE file supports COLLADA Instancing (i.e. SketchUp), then block definitions will be maintained. If exporting blocks is selected, then the exporter first turns the entire model into a block, which will also convert all architectural objects into blocks as well. This makes it a great way to bring AutoCAD® Architecture based .DWG files into SketchUp, or to kick-start any SketchUp project by creating the basic architectural geometry quickly and precisely by using TurboCAD parametric architectural tools, such as the walls, windows, doors, and stairs.

Database Connect

TurboCAD supports setting up a data link to a data source (ODBC database, Excel, CSV, SQL, Access, Oracle, and more) on either your local machine or company network. Since the data source remains outside of TurboCAD, the drawing file size is not affected which maintains performance.

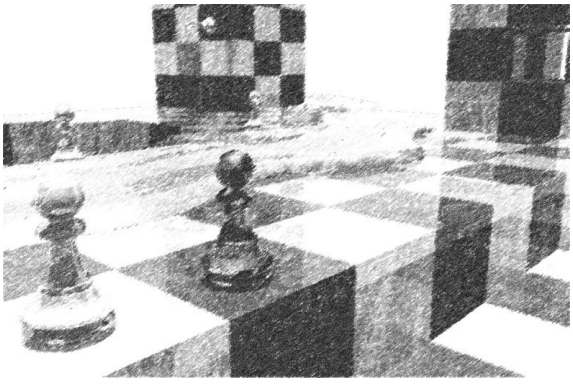
Batch File Converter

TurboCAD Pro also includes a powerful Batch File Converter utility. With this utility you may select files of one type and convert them to any of the file formats we support for saving. This includes converting a dozen .DWG files to .png, or converting .2CD to .DXF 2003 format files – all in one step.

Software Developers Kit

TurboCAD Pro includes a Software Developers' Kit (SDK) that provides the capabilities to extend the functionality of the application. This includes the ability to develop new tools, functions, and plug-ins for use in TurboCAD Pro. Custom routines that are performed on a regular basis can now be automated. Specific tools for vertical applications can be created and added.
TurboCAD Pro includes a number of special tools that were created as SDK examples, with many new samples added to TurboCAD Pro 18. They can be found under the Add-Ons menu.

Documentation for the SDK has been updated. It includes support and samples of functions for the following environments:



Ruby Scripting (new for TurboCAD 18)
VB Script
VB6
VB.net 2008
Visual C++
C# 2008
and Delphi
.NET (newly added to TurboCAD 18)
There is a wiki as well as forum-based support for developing customizations. See the TurboCAD Community Forums for more information.

Ruby scripting language, compatible with Google SketchUp Ruby Scrips, was added to TurboCAD 18. It uses the Ruby Scripting Console for writing program scripts suitable for both mechanical and architectural design.

External References (Xrefs)

All of the file formats that may be opened and imported, with the exception of bitmap images may be used as an external reference (Xref). More than 15 of the 3D formats that may be used as an Xref also work with the Drafting Palette. This combination means that the model may be designed in one application, and the views, sections, elevations, and floorplans will be updated when the original model is changed. The designer may continue to work in SketchUp, AutoCAD, or SolidWorks®, for example, while the drafting continues in TurboCAD.

TurboCAD Pro offers complete control over layers in the Xref, even when controlled through the new Layer Filter function in the Design Director palette. Support for binding an Xref in the document has been added, so that the geometry is converted into a block within the drawing. Once an Xref has been bound it may then be exploded to create simple geometry.

Another new feature is support for the drawing variable $VIZRETAIN which defines how changes will be applied when the Xref is reloaded. Drawings can be saved with Xrefs in .TCW, .2CD, or .DWG format, with those Xref properties maintained – although the .DWG will recognize only another .DWG as an Xref if opened in an application other than TurboCAD or DoubleCAD.

The addition of an XClip command make working with external references much more fruitful. Simply define the boundaries of the region to define the portion of the Xref to incorporate in the drawing.

Minimum System Requirements:

Pentium® IV Processor; Microsoft® Windows® XP with 512 MB RAM; Windows Vista or Windows 7 with 1024 MB RAM; 300 MB of free hard disk space; Super VGA (1024 x768) display; High Colour (16 bit) graphics support; 4X DVD-ROM drive.

Company Information:

IMSI/Design, LLC, is the global leader in retail CAD (Computer Aided Design). IMSI/Design products include the award-winning TurboCAD®, TurboFLOORPLAN™, TurboSketch™, and DesignCAD™ families of precision design applications.