

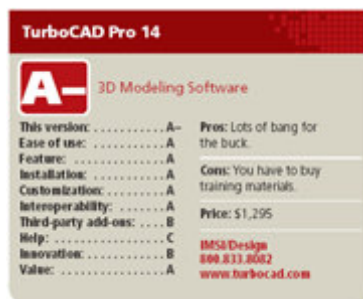
TurboCAD Pro 14 (Cadalyst Labs Review)

Combining power, affordability, and ease of use for 3D modeling adventures.

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I realize I'm going to date myself here, but I remember watching the original *Battlestar Galactica* when it was on. When they launched those cool Colonial Viper fighters, they'd grab the joystick and hit their turbo buttons. All kinds of fast-paced adventures ensued.



Now, some may argue that 3D modeling isn't quite as much fun as zipping around the galaxy in a hopped-up space fighter, but I like it. I'm always on the lookout for tools that will soup up my 3D modeling adventure. If that's you, too, then you might want to look at TurboCAD Pro 14 from IMSI (formerly International Microcomputer Software, Inc. The company name is IMSI/Design now, so the IMSI doesn't really stand for anything, according to Bob Mayer, chief operating officer).

Architectural Abilities

TurboCAD Pro 14

(figure 1) puts all the information pertaining to whatever you've selected in one place. Think of it as you might a property bar. The new Part Tree lets you suppress operations (for when you want to explore other alternatives) and delay updates (for when you've done a bunch of different things but you don't want it updating constantly, just when you're done). It is tightly integrated with the Selection palette, so you have everything you need at your fingertips.



Figure 1. The Selection Info palette is a one-stop shop for whatever you've selected. You can query and then change any value that defines the object.

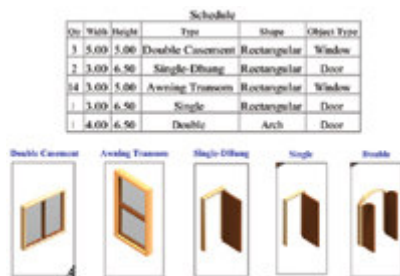


Figure 2. A paper space view of the Door and Window Schedule feature.

You can easily edit and update the door and window parameters from within the Selection Info palette to control just about every aspect of your project (figure 2). The Terrain tool (figure 3) lets you model the actual building lot you are going to use. You can enter the data using xyz coordinates and then manipulate it by moving points. If you already have the data, you can import it using a triangular irregular network (TIN) format file.

Mechanical Muscle

The Face-to-Face Loft function (figure 4) lets you build a transition model between two selected objects. A good example is a piece of ductwork that goes from a rectangular cross-section to a



Figure 3. TurboCAD Pro 14 has a new Terrain tool that lets you enter discrete points or import triangulated terrain models of an actual site. When you design a building, it will go where it was intended and not surprise you.

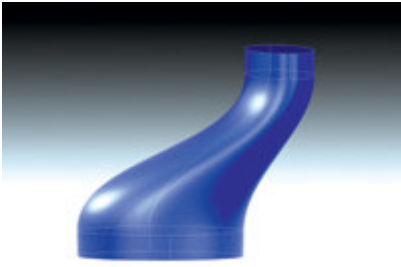


Figure 4. Face-to-Face Lofting lets you create a transition from one object to another. It's good for ductwork.

Not anymore. TurboCAD Pro 14 lets you select multiple profiles that don't intersect each other, and it will extrude them while keeping in mind that multiple solids generally don't occupy the same space (at least within the same command). If you have nesting profiles, you will either get a solid with holes or multiple solids. This capability can save you a *lot* of time.

circular pipe. The new Branch Loft function is intriguing. With it you can transition between one central trunk and two or more branches. I can think of many instances in which that would come in handy: for example, manifolds, wiring harnesses, and coat trees. You can use simple objects as well as compound profiles. TurboCAD Pro 14 will keep everything where it needs to be.

And speaking of compound profiles (**figure 5**, p. 32), TurboCAD Pro 14 now supports them in a new, much more creative way. In some 3D modeling systems, you can have only one profile in a command.



Figure 5. When you go to extrude a profile and it encloses internal details, they will come out as holes.

TurboCAD Pro 14 now offers Geometric Alignment Aids, which are visual references that let you know where on an object you are going to snap. It covers things like tangencies, intersections, and parallels. The inferred snap lets you specify objects of interest. That means you can specify which objects you are interested in — right in the middle of the selection process. It might not sound like truly innovative stuff to the more experienced modelers out there, but it's good to see in a program that costs only \$1,295!

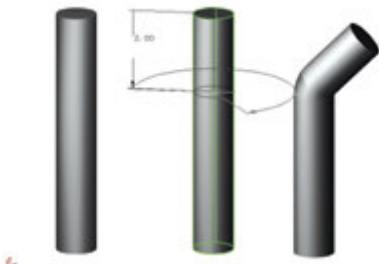


Figure 5. When you go to extrude a profile and it encloses internal details, they will come out as holes.

One command I particularly liked was the Tube Bend tool (**figure 6**), which is available as part of the Mechanical Tool Set (\$99.95). You select the tube, specify how far down the tube from its end you want the bend, and then choose how big a bend you want and in which direction. Badda-BING! It's bend-o, change-o! The way it's done is very straightforward and easy. You also can extend a tube and bend it at the same time.

the Smart Dimension tool and is a fast, easy way to annotate your model. You can apply all kinds of dimensions — horizontal and vertical, angular, parallel, and radial — right to your model. The sheet metal function uses these dimensions to control the size of a flange, for example.

The Boss tool, which also is part of the Mechanical Tool Set, is very much like the Hole tool, but it creates geometry that goes away from the model's volume. You specify the boss' location, its diameter, and its height — even the angle of its walls. It's pretty simple. You also have sheet metal functionality built right into TurboCAD Pro 14. It works with

Of course, no one models in a vacuum. If you can't import or export from a program, you are up the proverbial creek without a paddle. Not to worry. TurboCAD Pro 14 is compatible with all kinds of industry-standard file formats, including DWG/DXF, SketchUp, and ACIS (TurboCAD Pro 14's native modeling kernel). Interestingly, TurboCAD Pro 14's SketchUp support retains the original material and color properties when you import objects. That makes it easy to use Sketch-Up as a conceptual tool and then switch to TurboCAD Pro 14 as an engineering tool.

TurboCAD has many great plug-ins available that add to the product's functionality. Add TurboSketch, an easy rendering plug-in for Google SketchUp, and you're on your way. TurboSketch uses the Lightworks engine for photorealistic rendering. Animation Lab 4 will let you create animations of your designs. The CAM add-on will help you produce parts. The Furniture Maker has chairs and other furnishings. There's even a Hatch Pattern Creator for when you need a new or different crosshatch.

Soapbox Alert

TurboCAD Pro 14 offers several training manuals to teach the program's capabilities. (A few third-party books are available as well.) They cost approximately \$50 each. I think training materials should be free. Sure, books are good, but they're usually too expensive, and frankly, when was the last time you felt like you got your money's worth out of a software training manual? How much does it cost to put a few videos on a Web site? I think free training should be expected of a company that wants to position itself as a developer of a high-quality product.

Powerful, Simple, Affordable

If you can't afford to buy a high-end 3D modeler, TurboCAD Pro 14 might just be right for you. It combines great power, a low price, and ease of use to make what you do even better. For more information about TurboCAD Pro 14 or its add-ons, visit www.turbocad.com.