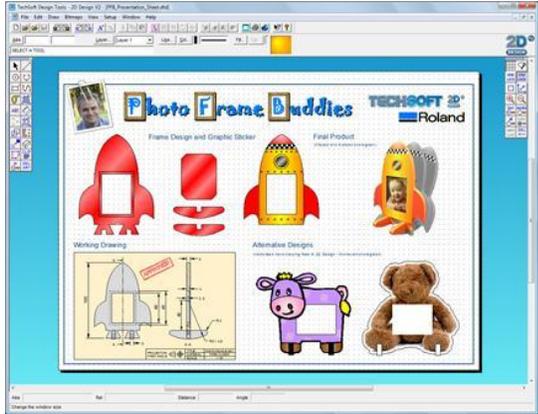


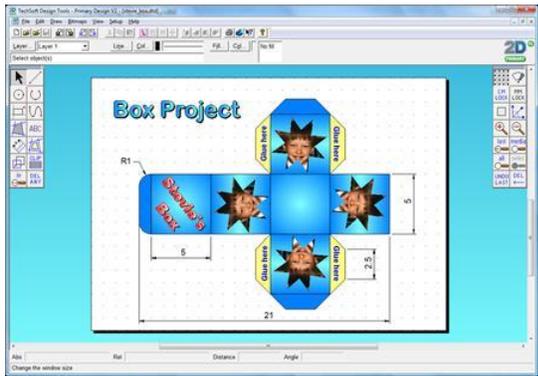
Output to CAM

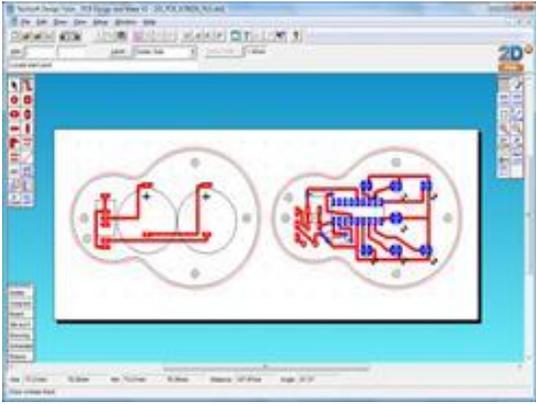
This section is about output from CAD software to subtractive CAM such as routers and milling machines. **For additive output please see the sections on 3D printing.**

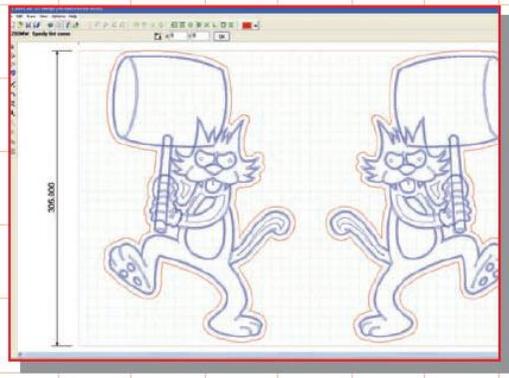
2D Output

Usual file format for export from 3D CAD is DXF

Techsoft 2D Design	
<p>Techsoft 2D Design for users who require sophisticated drawing and design features. Whether you need to produce engineering drawings, parts to be cut on a knife cutter, miller/router, or laser cutter, or smart graphical presentation sheets, 2D Design V2 has been carefully developed to give you all the tools you need . and all in one place.</p>	
<p>More Info. http://www.techsoft.co.uk/products/software/2D_Design_V2.asp</p>	

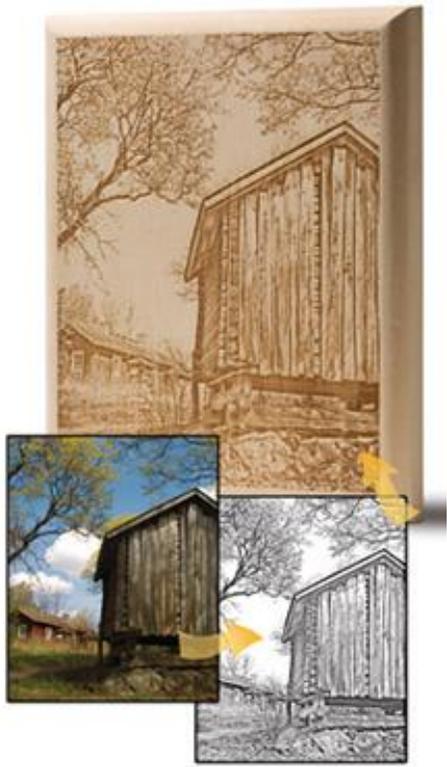
Techsoft 2D Primary	
<p>Techsoft 2D Primary is accurate drawing & design software for Key Stage 2. Based on TechSoft's Secondary level software 2D Design, 2D Primary offers simple, yet powerful drawing functionality combined with easy to use bitmap tools (e.g., clip and mask photographs). 2D Primary has in-built drivers for CAM so not only can you draw things, you can make them too! Knife cutters provide the means to cut stickers, or to cut and score card to create greeting cards, packaging nets, etc..</p> <p>Image Techsoft2DPrimary</p>	
<p>More Info. http://www.techsoft.co.uk/products/software/2D_Primary.asp</p>	

Techsoft 2D PCB	
<p>Techsoft 2D PCB is effectively two programs in one package; a simple to use PCB design package and a PCB manufacturing system. The system allows the use of a STIKA, CAMM 1, or ColorCAMM to cut out the tracks in sticky backed copper foil, or the use of a RotoCAMM, EGX-350E, MODELA, or CAMM 2, etc., to engrave around the tracks, drill the holes and cut out the board, for a completely finished PCB.</p>	
<p>More Info.</p>	<p>http://www.techsoft.co.uk/products/software/2D_PCB.asp</p>

LaserCam 2D	
<p>LaserCam 2D from Denford is for use with Laser cutting machines. Simple designs can be created quickly and accurately and output to a laser with minimum effort. A host of import options make it the ideal way to manufacture logos, designs and projects on most types of Laser cutter & engraver.</p> <p>Image LaserCam2D</p>	
<p>More Info.</p>	<p>http://website.denford.ltd.uk/software-menu</p>

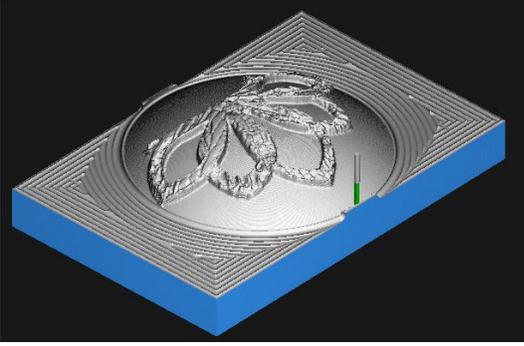
QuickCAM 2D Design	
<p>QuickCAM 2D Design from Denford is an advanced, yet simple to use, wizard based 2D CAD/CAM package. You can create designs quickly and accurately, then run the CAM wizard to create CNC machine toolpaths. It features various import options to allow images, PCBs and designs from other CAD packages to be manufactured. The customisable post processor and advanced printing facilities provide outputs to most desktop CNC and laser machines. Also can output PCB designs with drilling feature.</p>	
<p>More Info.</p>	<p>http://website.denford.ltd.uk/testimonials-menu/135-testi-innovativ</p>

SureLab	
<p>SureLab from Trotec has been developed in cooperation with CadLink and features additional features specific to Suregrave. It's packed with engraving-specific features that provide complete design and production tools. SureLab supports dye sublimation printers, vinyl cutters and CNC machines. Free demo download (outputs 10 times before registration necessary).</p>	
More Info.	http://www.suregrave.com/surelab.html

PhotoLaser+	
<p>PhotoLaser+ from Trotec will process digital images and ensure the highest quality laser engraving output.</p>	
More Info.	http://www.suregrave.com/photolaser.html

3D Output

Usual file format for export from 3D CAD is STL

Boxford 3D GeoCam	
<p>Boxford 3D GeoCam will output to all the common school CNC machines and has additional cutting strategies as well as the usual raster cutting. With Boxford's own machines the link to manufacture is seamless.</p>	
More Info.	http://www.boxford.co.uk/products/3d-cam/

RapidPro	
<p>RapidPro (also from Boxford) imports a solid model and, using a special wizard, takes just a few clicks to slice the model. The slices are then cut out of sticky-backed paper in conjunction with a vinyl cutter (for instance a Roland CAMM-1), nesting as many slices as possible on a sheet to minimise paper usage. To further minimise material costs, the model can be scaled and the required number of sheets is displayed at any chosen scale. Thicker slices can also be output to Laser Cutter or profile cut. See details here (PDF).</p> <p>Image RapidPro screenshot</p>	
More Info.	http://www.boxford.co.uk/products/rapid-prototyping/rapid-pro/

123D Make (Autodesk)

123D Make (Autodesk) This a free tool to turn your digital ideas (from STL files) into something you can hold. It slices and converts digital 3D models into 2D patterns you can cut out of any flat material. Make also creates 3D instructions you can interact with, to help build a model. There are four construction methods:

1. Stacked Slices Cross sections your 3D model, cutting it into slices you can 123d make example glue and stack on top of one another. You can recreate the model using any flat material you can cut.
2. Interlocked Slices Cuts your 3D model into two stacks of slotted slices. Lock them together in a grid, like when building a 3D puzzle. This uses less material than stacked slices.
3. Curve Cuts Slices perpendicular to a curve, resembling ribs. Use this for organic shapes, such as for modeling a brontosaurus. Also, use the Navigation tools to help rotate your view to see the curve.
4. Radial Slices Cuts your 3D model into radiating slices from a central point. Use this for a round symmetrical object, such as a vase.



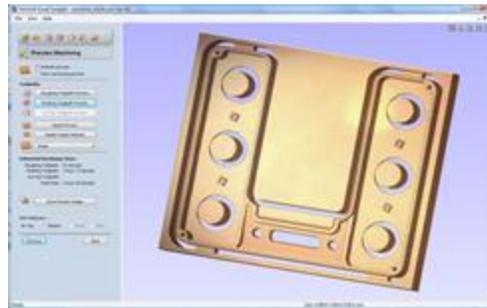
More Info.

<http://www.123dapp.com/make>

Techsoft's Visual Toolpath

Techsoft's Visual Toolpath is a 3D machining program designed specifically for the educational user. Visual Toolpath will output to all Techsoft's 3D capable miller/routers and is supplied free with TechSoft's MDX-40AE, MDX-540E and RouterCAM machines. All other Roland Machines from TechSoft are supplied with free 3D CAM software such as SRP Player or Modela Player/Virtual Modela.

Image VisualToolpathscreenshot



More Info.

<http://www.techsoft.co.uk/products/software/VisualToolpath.asp>

QuickCam Pro

QuickCam Pro from Denford is an advanced, yet simple to use, wizard based CAM package, which is used to create cutter paths for machining 3D parts on a milling machine or router. Both STL files and image files can be imported.

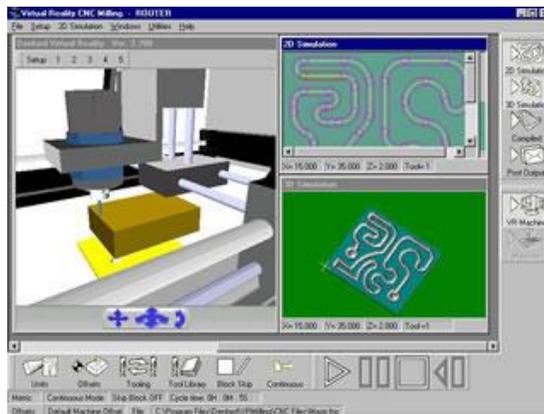


More Info.

<http://website.denford.ltd.uk/software-menu>

Virtual Reality CNC Milling 5

Virtual Reality CNC Milling 5 is an improved and updated version of CNC machine control software incorporating Denford PCB vmillingManufacturing Software and 2D DXF import facilities. Enhanced features provide the user with new machining capabilities, simplified options in datum setting, improved tool and work offset features and a virtual reality 3D simulation engine.



More Info.

<http://website.denford.ltd.uk/software-menu>