



# CENTROID™

# M-400

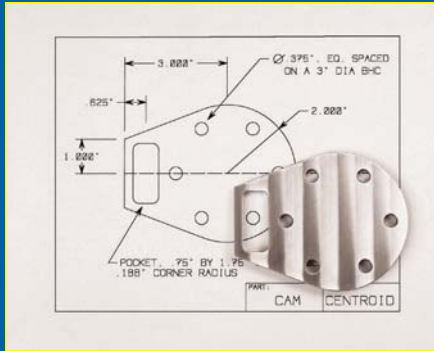
CNC Control  
For Mills



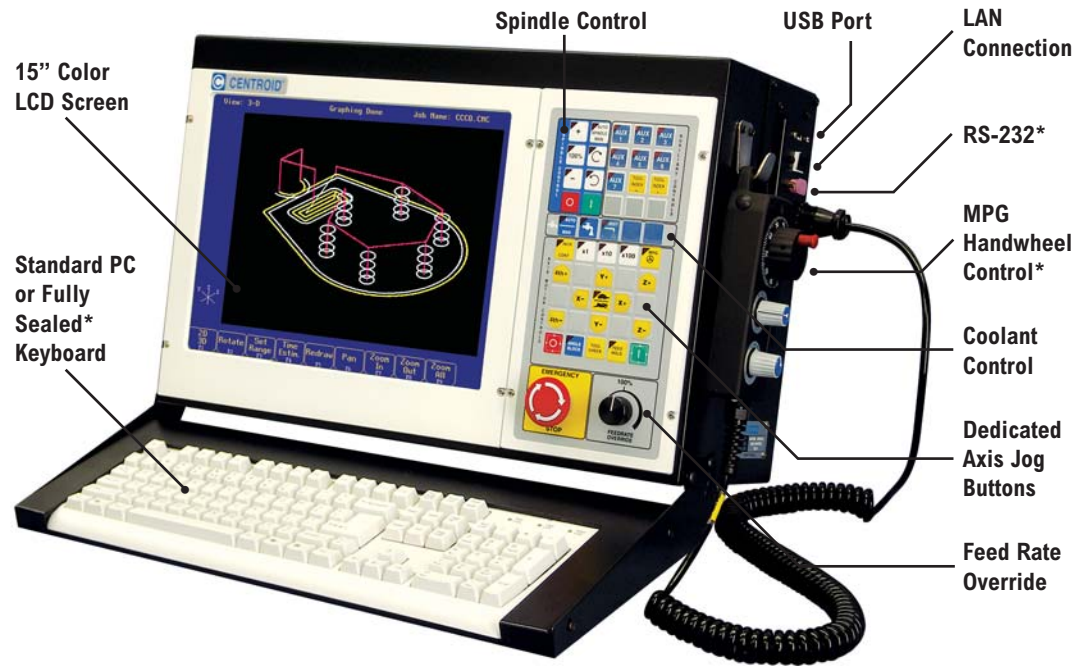
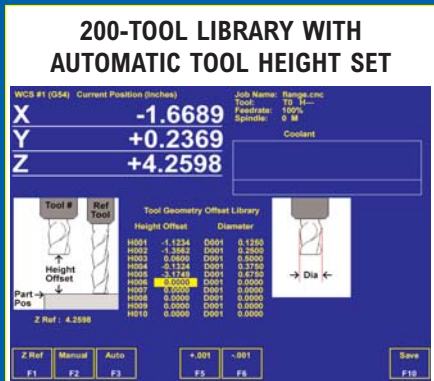
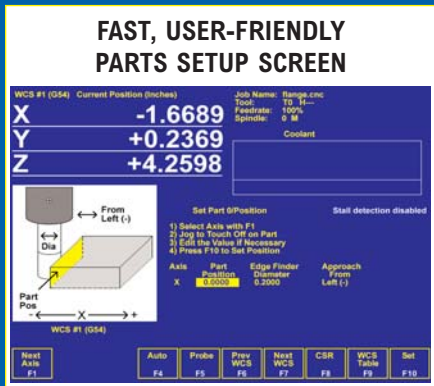
Made in USA



# So Easy, You'll Cut Parts The First Day!



## From Print to Part... In Minutes!

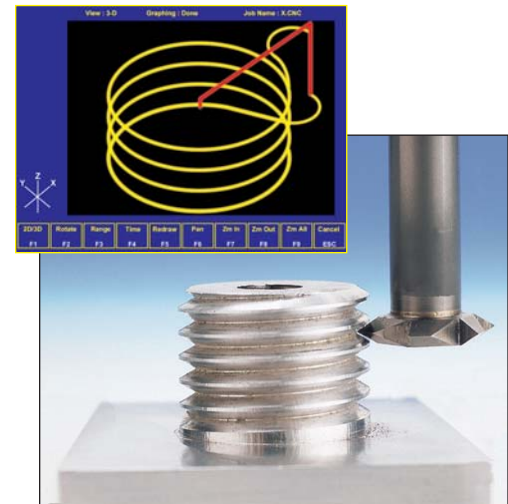


## Do more with a CENTROID!

- Cut parts the first day with intuitive, straight-forward operation
- Machine parts not possible with other controls
- Increase production with faster setups and easier programming
- Achieve high quality surface finishes
- Expand machining applications-take on more work, bid on higher paying jobs

### Color Tool Path Graphics

The M400 control allows you to view part programs from any angle in 2D or 3D. You can graph changes instantly while checking your work as you go, monitor cutter positions while machining, and see cutter compensation moves.



### Intercon Conversational Programming

Intercon Conversational Programming enables you to create part programs from dimensions on your print. Its straight-forward fill-in-the-blank format incorporates graphical help screens to further simplify user interaction while the software automatically creates the G Code. Teach Mode and Math Help functions are included as well as the canned cycles listed below.

### Intercon Canned Cycles

- G Code generation
- Calculator: trigonometry, geometry, and math
- Math help functions
- Corner radius
- Bolt hole patterns, tapping, and boring
- Pockets: rectangular, circular, and irregular with auto-cleanout, island avoidance, and finish passes
- Repeat whole parts, any events, a matrix of holes, and auto-finish to depth contour
- Mirror and rotate whole parts or one entity
- Threadmilling: inside, outside, right, and left
- Lines: end points and polar
- Arcs: EP&R, ER&R, CP&EP, and 3-points
- Frames: inside and outside of rectangular, circular, helix, and irregular

### Advanced Features Include

- AC or DC servo motors
- Network-ready with LAN connection
- Built-in solid-state hard drive and USB port
- User-friendly part and tool setup menus
- Up to 5-axis control with spindle orientation
- Conversational programming posts G Code
- High-speed processing with accel lookahead
- Run-time graphics let you graph while you cut
- Digital CNC control with DSP
- Easy-to-read high-resolution color LCD screen
- Smart search function allows you to restart a program from any point

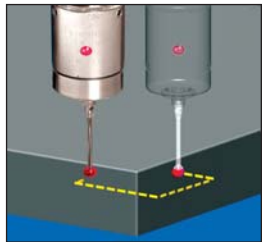
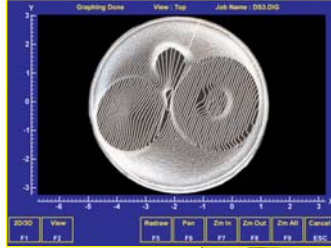


## High Speed Machining

Run large, complex CAD/CAM or engraving programs without worry. The high block through-put combined with superior 2000-line accel and decel lookahead provide fast, smooth cuts while holding tight tolerances. Continuous tool motion eliminates hesitation and dwell creating a much better surface finish. Conveniently stop and restart the process at any point. Automatic servo motor tuning ensures accuracy with minimal maintenance.

## Digitizing\*

Copy and cut 2D and 3D parts with the DP-4 Digitizing Probe and Digitizing Package. Perform grid, radial, and contour digitizing while the software automatically generates and stores part programs on the control's hard drive. Cut the part right away or export the data to your offline CAD/CAM software package for further editing. Enhance your control with the ability to create a mold from a plug and a plug from a mold. Additionally you can generate a roughing pass using Mold Magic and digitize any inside or outside 2D contour using 2D Contour Copy.



## Probing Cycles\*

Find bore centers, boss centers, fixture offsets, edges, and corners with the single push of a button using the DP-4 Digitizing Probe and Probing Cycles. Set part zero positions by locating corners and edges of parts and fixtures much faster and far more precisely than with dial indicators or edge finders. Add Coordinate System Rotation\*, and forget about tramping a vise ever again.

## Rigid Tapping\*

Rigid Tapping provides precision spindle speed and Z-axis control, allowing the use of solid tool holders with your tap. Conventional Rigid Tapping and a special Deep Hole Tapping Cycle for large-diameter taps is included.



## OEM and Retrofit CNC Control Systems

Pre-engineered CNC control packages are available for a wide variety of new machines as well as retrofit upgrade kits for good machines with obsolete controls. Systems are factory-assembled, fully-tested, and shipped ready-to-run. Common CNC control configurations are in stock and ready for immediate shipment.



## Over 25 Years of Experience

CENTROID is a U.S. owned and operated company with thousands of CNC controls in operation world wide.

## Certified Worldwide Support

Worldwide network of factory certified technicians, provide fast and affordable CNC Sales, Training, Service and Support.

## Designed To Last

CENTROID products run cool and quiet, with proven made-in-the-USA reliability.

## Up-To-Date CNC

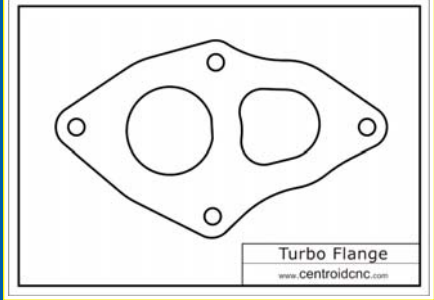
CNC Software updates allow users to stay current with the latest technology. New CNC features can be added to controls in just minutes.

\* Optional

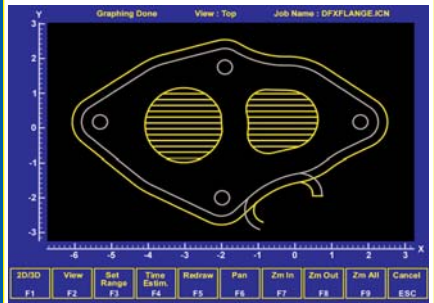
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# CAD-to-CNC in 3 Steps!

## STEP 1 - IMPORT THE DXF FILE



## STEP 2 - CREATE THE TOOLPATH

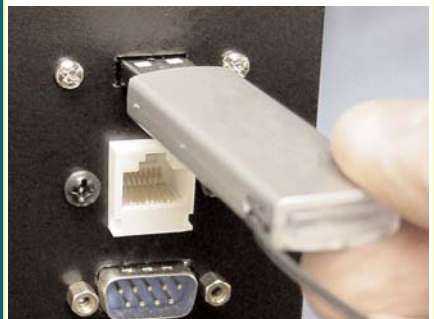


## STEP 3 - MACHINE THE PART



# Import and Export DXF and G Code\*

## USB IMPORT AND EXPORT



Import and export both DXF files and G Code effortlessly using the control's high-speed USB port and any standard USB memory drive. USB memory drives outperform dated floppy drives by offering faster transfer rates, much greater capacities, and unwavering reliability.

www.centroidcnc.com

## M-400 Options\*

- \* Multiple Work Coordinate Systems
- \* User-Definable Macros and Sub Programs
- \* Compression Tapping
- \* Rigid Tapping
- \* Scaling and Mirroring
- \* Unlimited Part Program Size
- \* Coordinate System Rotation
- \* DXF Import CAD Drawing Import Software
- \* 2D & 3D Digitizing Software
- \* Probing Cycles
- \* Engraving Software
- \* Smart ATC Control
- \* Precision Rotary Tables
- \* 2-Axis Tilting Rotary Tables
- \* DP-4 Digitizing Probe
- \* TT-1 Automatic Tool Setter
- \* MPG
- \* Sealed QWERTY Keyboard
- \* Console Floor Stand
- \* Electrical Cabinet Mounting Stand



### Engraving\*

Engrave letters, numbers, symbols, and logos from your personal computer. Programming with the conversational software is simpler than a CAD/CAM system as graphic displays show what the engraving looks like before you cut the part. Easily transfer designs to the control via LAN connection or USB memory stick, or directly import the DXF CAD drawings from the control.



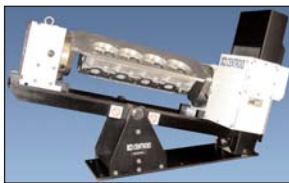
### Smart Automatic Tool Changer Control\*

The Smart ATC Control incorporates automated features like: menu-driven tool pocket load, unload, tool position memory, and batch tool length auto measure.



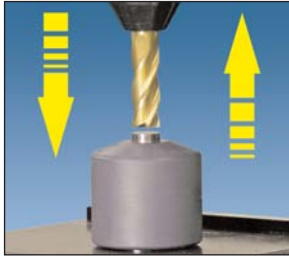
### Precision Rotary Tables\*

Precision Rotary Tables offer true 4th-axis contouring and simultaneous 5-axis machining, operating vertically or horizontally. They are easily programmed using Intercon Conversational software, G Codes, or CAD/CAM applications with either degree, minute, second or decimal values. Configured with AC or DC servos.



### 2-Axis Tilting Rotary Table\*

Do 5-axis work on your 3-axis mill with the 2-Axis Tilting Rotary Table. Using a patent-pending ballscrew-driven tilt mechanism. Tilt position accuracy is .0002".



### Automatic Tool Setter\*

The TT-1 Automatic Tool Setter measures tool height offsets faster and more accurately than manual methods, saving you valuable time on every tool change. Simple one-touch operation sets tool heights to within 0.0001" in seconds. It's capable of automatic batch measurements when used with an automatic tool changer (ATC).



### Sealed QWERTY Keyboard\*

The Sealed Keyboard ensures a long, trouble-free keyboard lifespan. It is resistant to dust, grease, oil, water, and chemicals. It provides great tactile feedback with its raised keys and distinctive clicking action when depressed.

## M-400 CNC Control Applications

CENTROID's M-400 CNC Control applications include machining centers, bed mills, knee mills, cnc routers, horizontal boring mills, jig bore machines, precision mold making machines, and electrode machines. In addition, specialty machines can also be controlled with the M-400 such as five-axis cylinder head machines, cnc welders, cnc lasers, cnc waterjets, and more. The M-400 comes standard with support for three-axis machining using AC or DC power, and can easily be optionally configured with up to five axes of fully-interpolated motion.



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## Distributor:

\* Optional