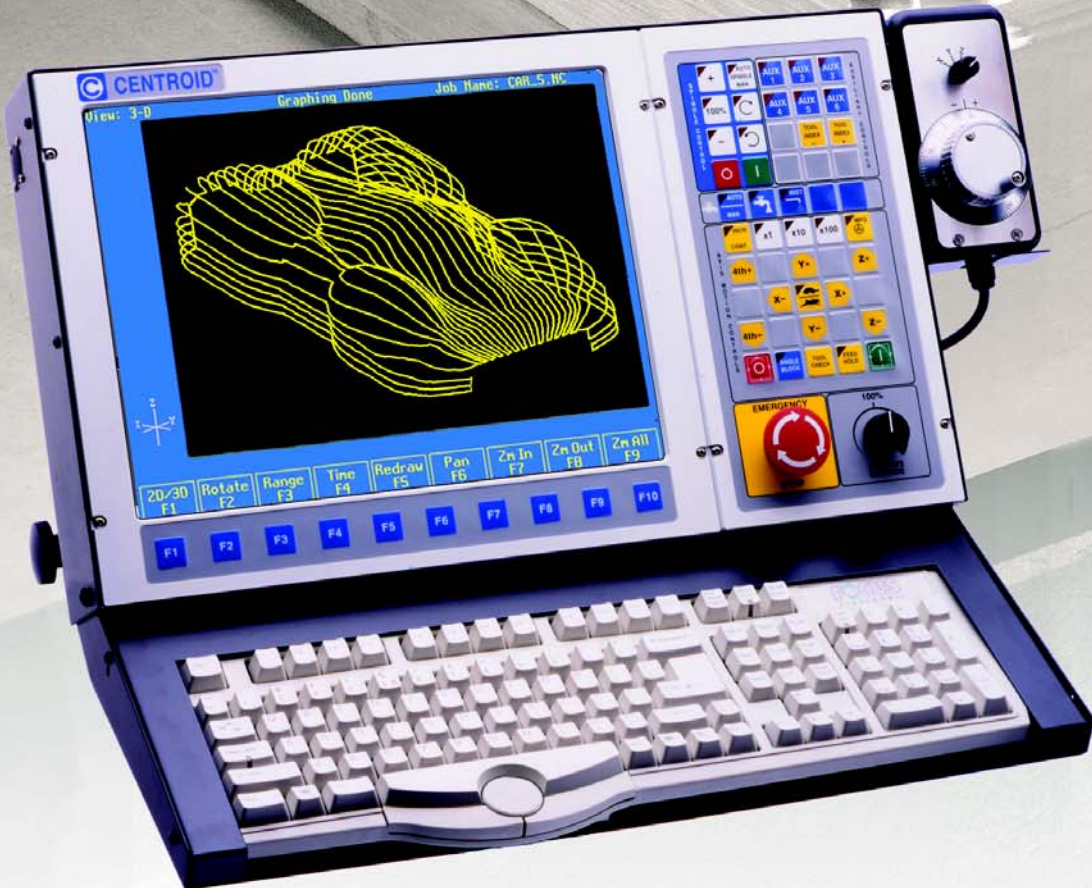




CENTROID™

M-400 CNC Control
For Mills

**Do More With a
CENTROID!**



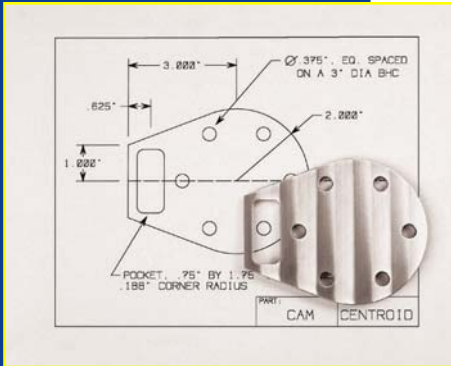
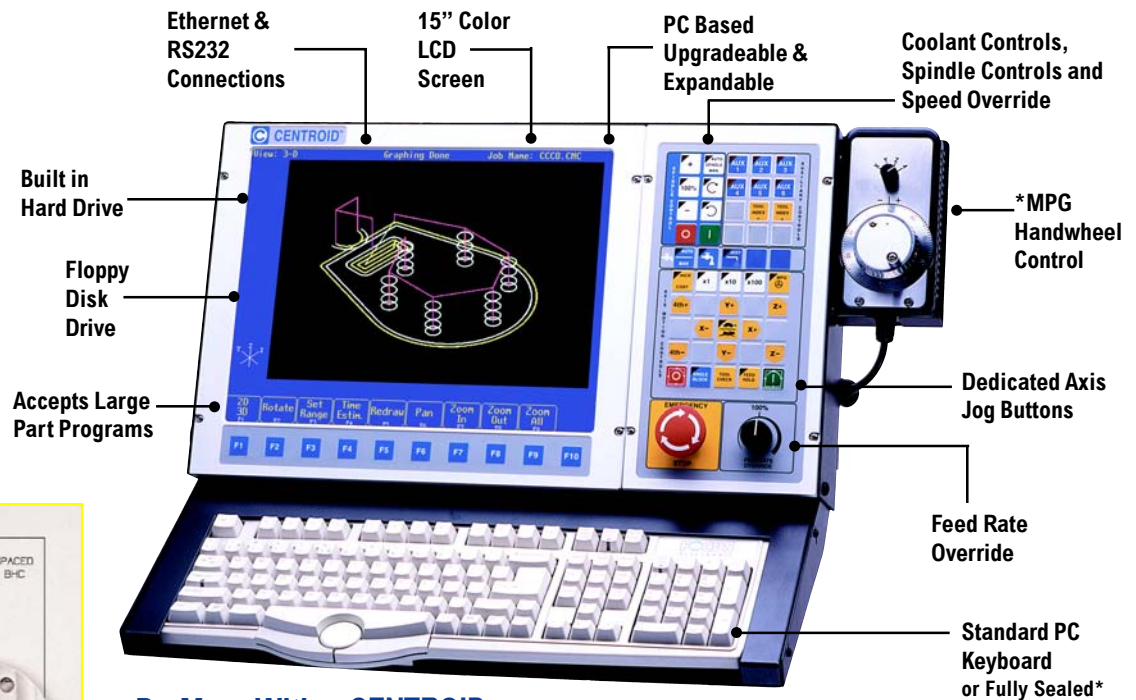
**New!
15" LCD**

**CNC Controls
Up to 5 Axis of
Simultaneous
Control**



Made in USA

So Easy, You'll Cut Parts The First Day...



Print to Part ... In Minutes

Do More With a CENTROID...

- Cut parts the first day with CENTROID's straight forward operation.
- Machine parts not possible with other controls.
- Get more work through a machine with faster setup and easier programming.
- Produce more parts per hour with a better surface finish.
- Spend less time programming and more time making chips.
- Bring in more work and bid on higher paying jobs.

Intercon: Conversational Programming*

Create part programs from the dimensions on your print. Easy "fill in the blank" format with graphical help screens automatically create the G-code program for you. Powerful features include: Irregular pocket cleanout, Threadmilling and much more.

Color Tool Path Graphics

See your part from any view, 2D or 3D. Graph any changes instantly, and check your work as you go. See cutter position as it machines.



Automatic Tool Setter*

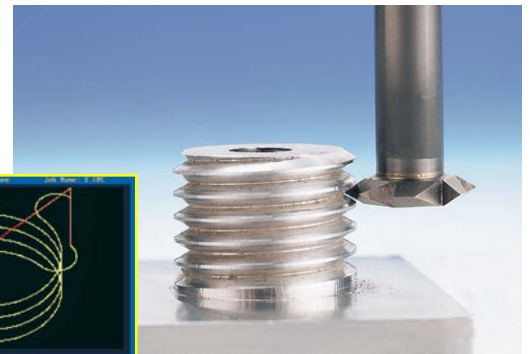
CENTROID's auto tool setter makes measuring tool length offsets automatic and quick. Press one button to measure your entire ATC carousel. On screen prompts guide you through the process with simple push button operations.

Intercon Canned Cycles*

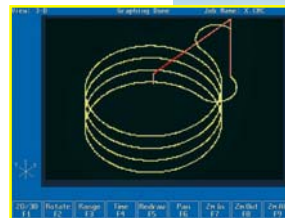
- Bolt Hole Patterns
- Facing
- Rectangular, Circular or Irregular pockets with cleanout cycles
- Repeat whole parts, a matrix of holes or a depth contour
- Mirror, rotate, or scale
- Rectangular and circular framing

Rigid Tapping*

Precision spindle speed and Z-axis control allows the use of solid tool holders with your tap. Includes deep hole tapping cycles.



Automatic Threadmilling



Advanced Features

- High Speed Machining*
- Smart Search allows you to restart a program from any point
- Run Time Graphics graph while you cut
- Built in hard drive
- Conversational Programming*
- Network Communication: ready to plug into your network*

Over 25 Years of Experience

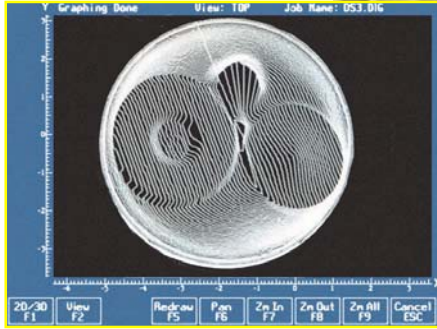
CENTROID is a U.S. owned and operated company with thousands of CNC controls in operation worldwide.

Certified Worldwide Support

Worldwide network of factory trained and certified technicians, provide fast and affordable CNC sales, training, service and support.

Digitizing*

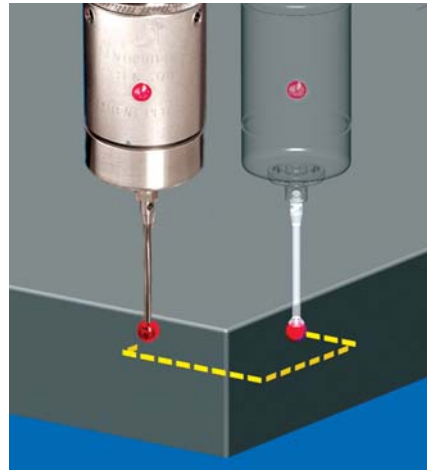
Copy and cut 2D & 3D parts with ease. Digitizing automatically generates and stores the part programs on the hard drive. Generate roughing passes or create a mold from a plug or vice versa without CAD/CAM. Cut the part right away or export the data to your offline CAD/CAM software for editing. New! "CAMCOPY" will Digitize a 2D contour and automatically create the part program to reproduce the shape.



So Advanced, You'll Cut Parts The Competition Can't

Probing Cycles*

Find Bore and Boss centers, fixture offsets and corners quickly and accurately, with the push of a button. Defining part zero or finding an edge can be done fast and with greater precision than simple indicators. Add **Coordinate System Rotation***, and forget about tramming a vise ever again.



Automatic Tool Changer*

Smart Automatic Tool Changer control. ATC features like: tool position memory (even if the power goes out), shortest distance to tool for quick changes, and automatic batch tool length measurement make an M-400 equipped ATC machine fast and easy to use.

Designed To Last

Proven Made-in-the-USA reliability. The CENTROID runs cool and quiet. Easy to maintain, with CENTROID's exclusive autotune, dragplot and self diagnostics.

Stay up to Date

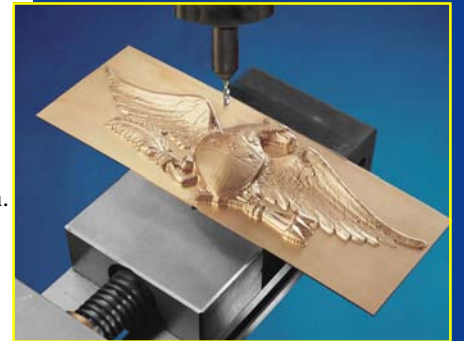
Software updates allow CENTROID users to stay up with current CNC technology. In just minutes, new CNC features can be added to the control.

High Speed Machining*

Run large complex CAD/CAM or Engraving programs without hesitation. CENTROID's high block through put combined with superior accel/decel lookahead provide fast, smooth cuts while holding tight tolerances.



Engraving Option*



High Speed Machining*



Turn-key CNC controls

OEM and Retrofit CNC control systems

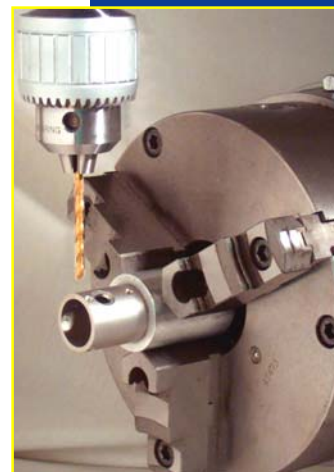
Pre-engineered retrofit packages are available for a wide variety of machine tools and are factory assembled and tested ready to bolt-on minimizing installation time. On site Installation and training available.

CENTROID Rotary Tables*

Easily programmed with Intercon conversational, G-codes or CAD/CAM, our extensive line of quality rotary tables come ready to plug in. Why buy a plain indexer when you can have the real thing.

Up to 5 Axis of Simultaneous Control

Centroid's optional 4th or 5th axis can be rotary or linear, offering true simultaneous, interpolated motion.

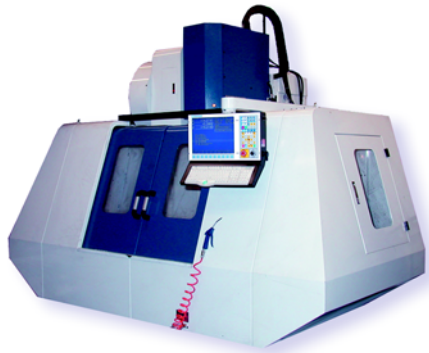


Add a
CENTROID
Rotary
Table*

4th Axis Rotary*

* Optional Feature

www.centroidcnc.com



M-400 Options*

- * Auto Tool Setter
- * Digitizing: Grid, Radial, Contours, and Cams
- * Interactive "Intercon" Conversational Programming
- * Rigid Tapping
- * Compression Tapping and Thread Milling
- * Multiple Work Coordinates
- * Unlimited Part Program Size
- * Engraving Letters, Numbers, and Symbols
- * MPG Handwheels
- * Scaling, Mirroring, and Coordinate Rotation
- * Laser Compensation
- * 4th Axis Control for Rotary or Linear Motion
- * 5th Axis Control for Rotary or Linear Motion
- * Auto Tool Changer
- * High Speed Machining
- * Ethernet Interface
- * Spindle Orientation
- * User Definable Macros and Advanced Programming Features
- * RS232 File Transfer

Specifications and prices subject to change without notice.



Made with Pride
in the USA

www.centroidcnc.com

CNC Computer

- Upgradeable Software
- 3.5" Floppy Disk Drive
- Internal Solid State Hard Drive
- 15" Color LCD Display
- LAN Ready*: RS232*, Mouse, Keyboard and Parallel Ports
- Digital Fiber Optics

High Speed Machining*

- Unlimited Part Program Size
- Cuttercomp Lookahead
- High Block Throughout
- Accel / Decel Lookahead
- High Speed 3D Contouring

Display

- Current Position Display (DRO)
- Run Time & Parts Counter
- Program Display
- Real Time Alarm
- Message Display
- Feedrate Display
- English, French, Spanish, and Chinese Language Display
- Distance to Go
- Run Time Graphics

Control Operator Panel

- Emergency Stop
- Feedrate Override
- Spindle Speed Override
- Spindle Start / Stop
- Spindle Auto / Manual
- Spindle Clockwise / Counter Clockwise
- Coolant Control
- Fast / Slow Jog Buttons
- Continuous Jog or Incremental Jog (X1, X10, X100)
- MPG Select Button
- Tool Check
- Cycle Start / Cycle Cancel
- Feed hold, Single Block
- Axis Jogs X, Y, Z, 4th
- Tool Index +/-
- Programmable Auxiliary Keys

Operation

- Icon and Soft Key-Based Menus
- Alpha-numeric Program Names
- On screen Operation Instructions
- Part Setup Menus
- Tool Length and Diameter Setup Menus
- 3D Tool Path Graphics (G-Code Back plot)
- Full Screen Unlimited File Size Text Editor
- Backlash and Leadscrew Compensation
- Software Travel Limits
- Auto Machine Home and Park

Conversational Programming*

- Pocket Cycles (Circular and Rectangular)
- Frame Mill Cycle (Circular and Rectangular)
- Clean out of irregular pockets
- Straight or Ramped Plunges on Canned Cycles
- Position, Line, Arc Events
- Automatic Corner Radius
- Copy, Repeat, Rotate, Mirror, with Nesting
- Drilling Cycles
- Tapping Cycles*
- Boring Cycles
- Bolthole Circles (Drilling, Tapping, Boring)
- Array (Drilling, Tapping, Boring)
- Repeat (Drilling, Tapping, Boring)
- Threadmilling Cycles
- Automatic Angle Calculator
- Graphical Math Help For Solving Angles, Intersections, Tangents; with Paste to Event
- Linear and Polar Values on Same Event
- Single key Graphing Anytime During Programming
- 4 Axis, Degrees, Minutes, Seconds, or Decimal Degrees
- 2 Axis One-Shot Programming

Tool Library Functions

- 200 Position Tool Library
- Tool Length and Radius Compensation
- Automatic Tool Length Measurement*
- Spindle Direction, Speed, and Coolant Control*

G-Code Programming

- EIA Fanuc Style G-Codes
- G1 Linear Interpolation (5 Axis Simultaneously)
- G2 & G3 Circular Interpolation (Any Plane)
- G2 & G3 Helical Interpolation (Any Plane)
- G4 Dwell
- G17, G18, & G19 Circular Interpolation Planes
- G20 & G21 Inch / Metric Conversion
- G28, G29, G30 Work Coordinate Reference Return Point
- G40, G41, G42 Tool Radius Compensation
- G43, G44, G49 Tool Length Compensation
- G52 Offset Local Coordinate
- G54-G59 Work Coordinate Systems and 12 extended work coordinate systems*
- G73, G80, G81, G82, G83, G85, G89 Canned Drilling Cycles
- G74 & G84 Tapping Cycles*
- G90 & G91 Absolute / Incremental Programming
- G92 Coordinate System Setting
- R Specifying the Radius of an Arc
- N Sequence Number up to 9 digits

M-Function Programming

- M00 Stop
- M01 Optional Stop
- M02 Home Restart
- M03 Spindle CW
- M04 Spindle CCW
- M05 Spindle Stop
- M06 Tool Change
- M08 Coolant
- M09 Coolant Off
- M25 Z to Home
- M26 Set Home
- M91 Go to - Home
- M92 Go to + Home
- M93 Release Power
- M100 Wait for Input to Open
- M101 Wait for Input to Close
- M102 Program Restart
- M103 Start Timer
- M104 Cancel Timer
- M106 Move to - Limit Switch
- M106 Move to + Limit Switch
- M108 Enable Feed & Spindle Override
- M109 Disable Feed & Spindle Override

Utilities

- Backup and Restore System Files
- Backup and Restore Data Files
- Format Floppy Command
- PLC and System Diagnostics
- Import / Export Program
- Drag Plot (Patented)
- Auto Tune
- Error Message History

Advanced Programming Features*

- In line math computation
- User defined Variables
- Custom Probing M Functions
- Coordinate System Rotation
- Conditional statements (If/Then/Goto)
- Custom M-Codes
- Operator Prompts
- M Function Data Recording

Physical Characteristics

- 20.5" x 13.25" x 7.25" Control Console
- Net Weight 45 Lbs.



CENTROID™

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Howard, PA 16841
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(814) 353-9265 Fax
www.centroidcnc.com

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Chino Hills, CA 91709

(714) 528-7061

www.cnc-machine-controls.com

* Optional Feature

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