

9000 CNC: THE NEW STANDARD OF CONTROL.



MILLTRONICS USA
LET'S INVENT

Ingenuity Is Finding New Ways To Solve Old Problems.

Building unique processing and packaging systems for the food service industry worldwide.

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LARRY ROBERTS
B&F Precision Machine
Sheboygan, Wisconsin

9000 CNC

9000 CNC: THE NEW STANDARD OF CONTROL.

At Milltronics we are constantly refining our controls to simplify operation, shorten setup times and provide features that reduce cycle times. The 9000 Series CNC is our newest and upgraded control offered on the VM machining centers. It features 120 GB disk storage, 4GB memory, up to 10-times better graphic performance, mid-travel tactile keys and an enlarged 15" LCD touch screen. It's a Windows®-based platform and offers all the user-friendly features that Milltronics CNC controls are known for and more.

INTUITIVE

With its conversational programming, on screen help, intuitive menus, color graphics and prompted tool settings, the 9000 CNC helps new operators train faster and become more productive sooner. The 9000 CNC makes it the one machine in the shop that everyone wants to operate.

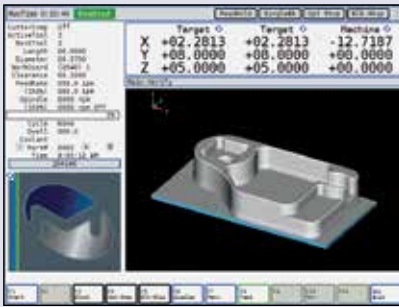
EFFICIENT

The 9000 CNC is packed with features that allow quick and confident operation of the CNC:

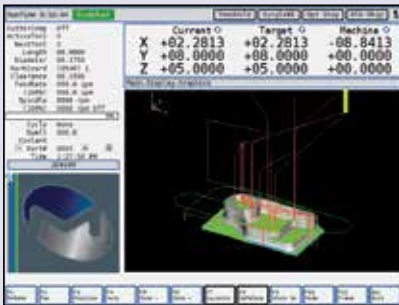
- Solid model graphics allows the operator to see a completed part prior to cutting.
- Mid program restart allows the operator to start anywhere in a program by verifying the graphics and then switching to Run Mode. It's simple – no need for G&M code expertise!
- Handwheel run allows the operator to run a program in a controlled mode where motion only occurs while the handwheel is turning. This feature allows operators to verify programs with total control and complete confidence.
- The 9000 CNC features a dual-core processor and high speed motion control that is capable of executing 3,000 blocks per second. Execute the most demanding programs in the shortest time.
- The 9000 CNC is equipped with a 120 GB solid state drive, 4 GB RAM memory, USB ports and Ethernet connectivity.

PRODUCTIVE

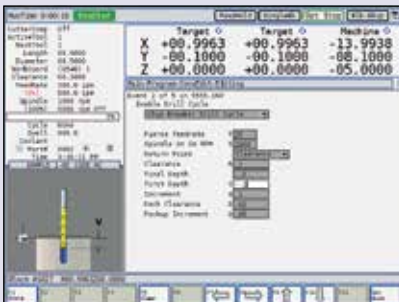
The 9000 CNC allows operators to run parts programmed conversationally or toolpaths generated by a CAM system. Coupled with a super-fast motion control system, feature packed CNC and interface designed to expedite setup and operation, the 9000 CNC is the solution to helping your operator make parts faster and better.



3D Solid Model Graphics



Solid Model with Tool Path Overlay



Context Sensitive Help Screen



Diagnostic Display I/O Status



File Utility Screen

PERFORMANCE & SPECIFICATIONS

Essentials

Processor	Intel® Core i5-3610ME
Instruction Set	64-bit

Performance

Number of Cores	2
Processor Base Frequency	2.7 GHz
Max Turbo Frequency	3.3 GHz

Memory Specifications

Data Storage	120 GB
System Memory Installed	4 GB

Graphics Specifications

GPU Core Speed	600MHz
Memory	1024 MB

Operating System

Primary OS	Windows® Embedded 7
Real Time Extension	IntervalZero RTX

The new Milltronics 9000 CNC control is Windows® based and features a 15" color LCD touch screen.

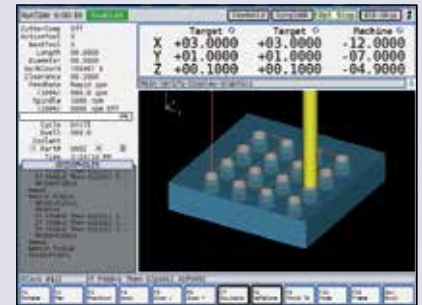


Display

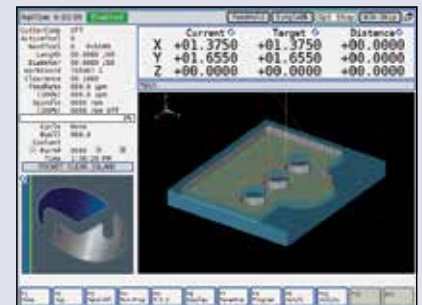
Size	15"
Resolution	1024 x 768
Backlight Type	LED
Touchscreen	Resistive

Operator Panel

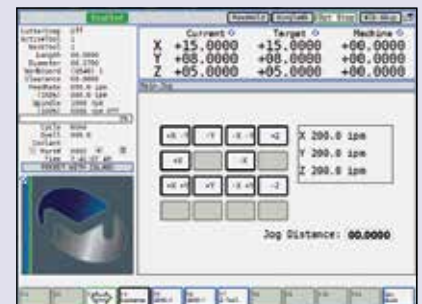
Keypad Type	ABS mid-travel with tactile feedback
Data Transfer	USB ports and Ethernet connectivity



Grid of Holes



Irregular Pocket Clearing with Islands



Jog Screen



Lettering Cycles



Numeric Calculator

PROGRAMMING FEATURES

Trig Help Features

- Arc & Line Intersection Find
- Tangent Line & Arc Functions
- 3 Point Arc Generation
- Line Extend Back
- Cartesian & Polar Coordinates
- Corner Chamfering & Rounding

Single Page Auto-Routines

- Bolt Pattern, Drill, Tap & Bore Cycles
- Text Engraving on Arc or Line
- Thread Milling Cycle
- Circular Framing Cycle
- Rectangular Framing Cycle
- Polygon Framing Cycle
- Circular Pocket Cycle
- Rectangular Pocket Cycle
- Polygon Pocket Cycle
- Slot Cycle
- Facing Cycle

Canned Cycles

- Milling Cycles
- Drill, Tap & Bore Cycles
- Custom Drill Cycle
- Rotary Axis Cylindrical Mapping
- 3D Sweep Routine
- Irregular Pocket Clear with Islands

Conversational Programming

- DXF & IGES File Import
- Math Function Input Fields
- Macro Variable Programming
- Custom Conversational Screens
- Speed & Feed Calculator
- Prompting Help Screens

G&M Code Programming

- Macro Programming
- MDI
- EIA / ISO Code (Fanuc™) Compatibility

Programming Features

- Concurrent Programming
- Cutter Compensation
- Inch / Metric
- Mirror, Scale & Rotate
- Dwell
- Subprogram Call, Looping & Nesting
- Tapered & Round Walls
- Engraving with Serializing

Run & Verify Features

- Handwheel Run
- Dry Run
- Block Skip, Optional Stop, Programmable Stop & Single Block
- Multiple Mid Program Start Options
- Mill Away / Jog Away
- Program Halt & Resume
- Tool Load Monitoring
- Tool Breakage Detection with Optional Tool Setter
- Estimated Cycle Time
- 10%, 100% & Variable Rapid Override Select
- Spindle Load Meter
- Fine Tune Feed & Spindle Override
- Machine Status Light
- Programmable Air, Mist & Coolant

Set-Up Features

- Automatic Tool Setting Program
- Single Button Tool / Fixture Offset Entry
- 60 Work Coordinates
- Continuous & Incremental Axis Jog
- Electronic Handwheel(s)
- Optional Probe & Tool Setter
- 199 Tool Diameter Length & Wear Offsets
- DRO Measure
- Safe Zone
- Hot Keys

Control Features

- Optional Four & Five Axis Simultaneous
- 3000 Blocks/Second High Speed Processor
- Absolute / Incremental
- 120 GB Solid State Hard Drive
- 4 GB Ram Memory
- 500 MB Text Editing with Cut, Copy, Move, Search & Replace
- Ball Screw Pitch Error Correction
- True S Curve Acceleration & Jerk Correction
- Feed Forward Error Correction
- Full Language Error Messages
- Backlash Compensation
- Linear, Circular, Helical & Interpolation
- Feed Per Rev, Minute, Inverse Time
- Custom I/O Screens
- Surface Finish Selection (SFS)
- Aux Keyboard Port
- Networking
- Calculator
- Service Diagnostics
- Parts Counter
- Program/Parameter (Edit Key)
- Remote Diagnostics
- Rigid Tapping
- Selectable Corner Accuracy
- Selectable Languages
- Handwheel Scroll through Menus
- 15" Color LCD Touch Screen Display
- Automatic Homing
- Two USB Ports
- Hour Meter

Edit Features

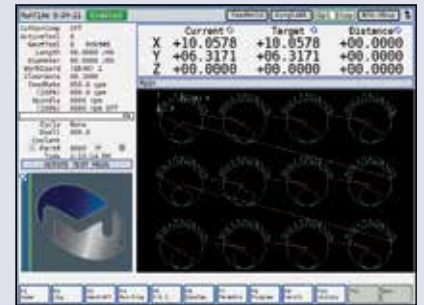
- Background Editing
- Cut, Copy, Paste & Move Editing
- Handwheel through Text
- Overwrite & Insert
- Global Find & Replace
- Printout a Program (Fastcam)

Display Features

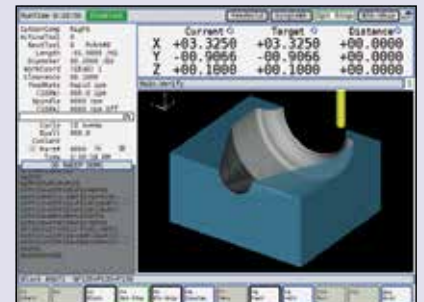
- 3D Part & Wire Frame Tool Path Graphics
- Color Graphics – Tool Path & Part Profile
- Solid Model Graphics
- Wireframe over Solids
- Transparent Graphics
- Customizable DRO
- User Definable Image Display Window
- User Selectable Graphics in all Planes



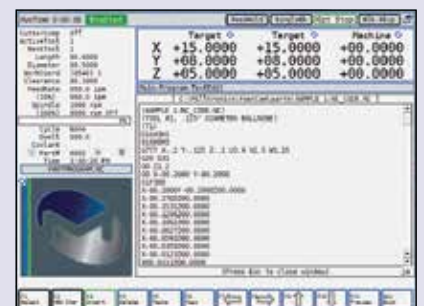
Tool Type Display



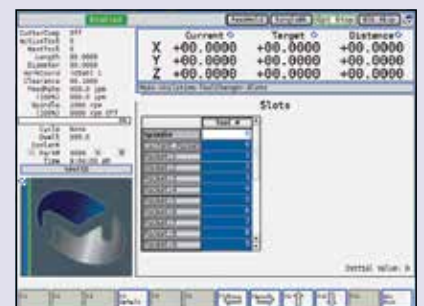
Sub-Program Loops for Pattern Repeat Cycles



Sweep Pocket Clearing Cycles



Text Editor



Tool Changer Slot Table



Milltronics USA, Inc. | 1400 Mill Lane, Waconia, MN 55387 USA | 888-999-1440 | sales@milltronics.com | www.milltronics.com

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9000CNC 2016-07-1