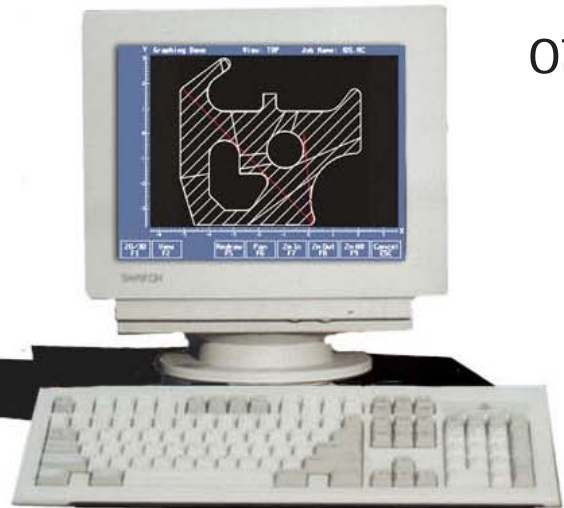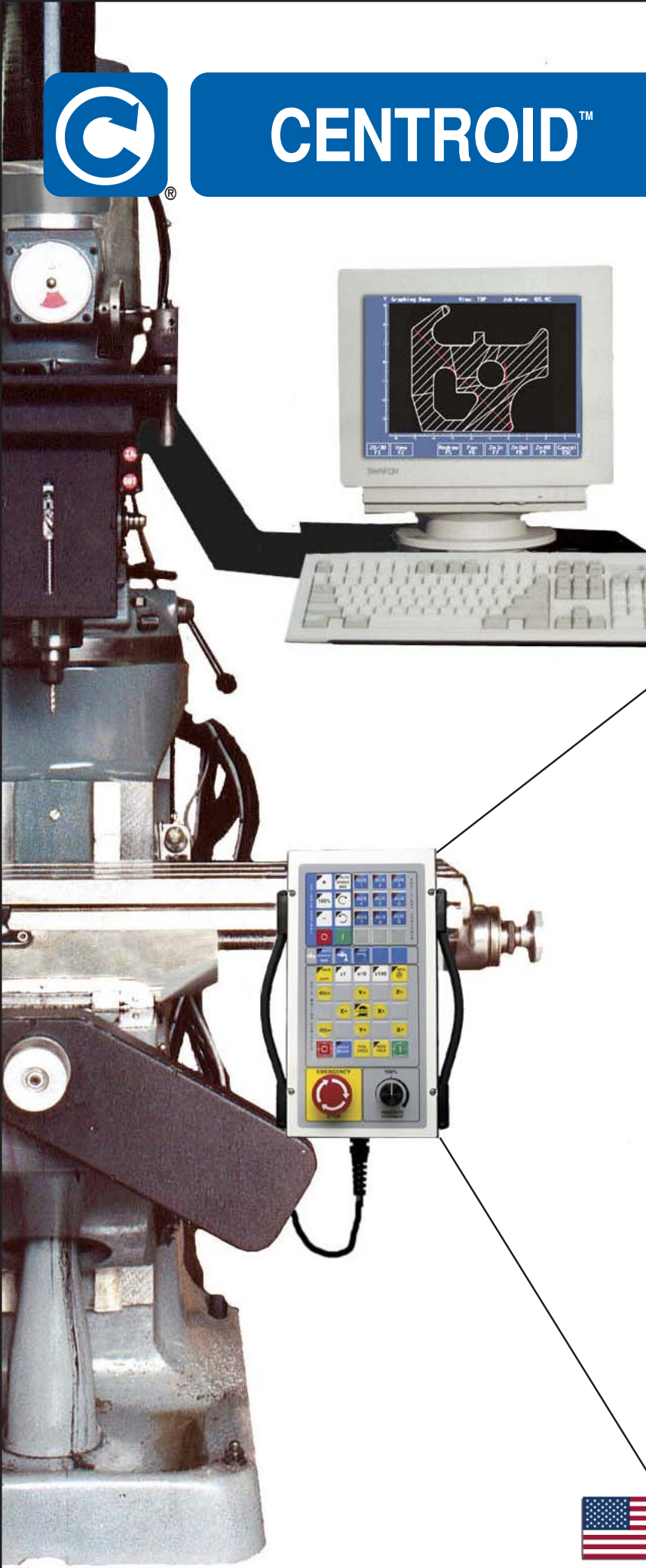# CENTROID™

M-39 CNC Control For Mills

All the Power and Economy of a True PC-Based CNC.

- 2, 3, 4 or 5 Axis CNC
- Hand-Held Control Pendant
- Conversational Programming
- Teach Mode
- Engraving
- Manual or CNC Operation
- Tool Path Graphics

What You Get with an M-39*

The M-39 is a 2, 3, 4 or 5 axis CNC designed for milling applications. It's ideal for CNC knee mills, bed mills, wood routers, and XYZ gantry machines. Includes:

- Pre-wired enclosure with PC, powerful servo drive, power supply, and I/O
- Hand-held control pendant; E-stop; dedicated jog, rapid override, spindle and coolant buttons
- 3 Powerful servo motors w/cables and encoders
- Mounting arm with monitor stand and keyboard tray
- Conversational, G-code, and CAD/CAM software installed
- Ready to bolt on and run!

True PC Based, Open Architecture System

The M-39 is the easiest control to integrate into your system. It uses a standard PC with off-the-shelf components. The software is installed and ready to go. Includes:

- ISA motherboard with powerful CPU
- Connections for PC keyboard, VGA, and mouse
- Solid State hard drive, 3.5" floppy disk drive, and RS-232 port

*User supplies keyboard, mouse, and monitor

Programming

Intercon Programming: Our easy conversational lets you program lines, arcs, pockets, and drilling operations graphically. Canned cycles, mirror, rotate, repeat, copy, and **Teach** make programming easy. With Math Help, solve for unknown intersections and tangent points.

G-code Programming: FANUC style G-codes are standard. G-code text editor is included.

* Engraving: Add Engraving to your M-39 for quick and easy engraving. Cut words, symbols, and numbers. Engraving also includes 20 fonts. Also, you can easily create your own font library from Autocad® DXF and HPGL files.

Tool Path Graphics: Check your work graphically. Plot the exact cutter path. View parts in 2D or 3D. Zoom in/out. Scaled axes.
*Optional Feature

M-39: *Tool Path Graphics*

High Speed Contouring

Centroid's CNC technology provides smooth, continuous movement with no hesitation or gouges. The M-39 processes G-codes at high speed block throughput600 block/sec. speed with 2000 block accel/decel look-ahead. Even the largest files can be run without hesitation, thanks to the Unlimited Part Program Size feature (optional, standard program size is 640Kb). The M-39 comes equipped with a large capacity hard drive to store all of your programs on the control.
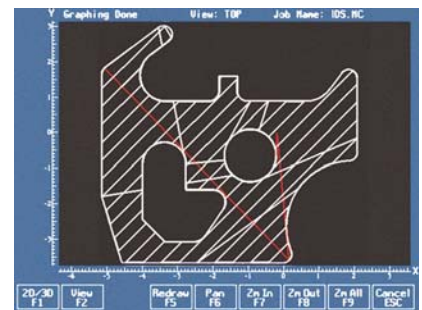
Deluxe Automatic M-Functions

Option #1: Pre-installed contactors for auto spindle CW/CCW, flood, mist, lube, and other extra I/O.
Option #2: Inverter spindle speed control, CW/CCW; pre-wired contactors for flood, mist, lube, and other I/O.

M-39 Options

• **Engraving:**	Comes complete with 20 fonts; generates G-codes automatically.
• **Digitizing:**	Automatically copy any 3D surface and cut the 3D part on your M-39.
• **4th Axis**	Use as a linear or rotary axis.
• **Auto Tool Measure:**	TT-1 touch-off block automatically measures tool heights.
• **Unlimited Prog. Size:**	Maximum part program size = available hard drive space.
• **Spindle Control:**	Automatically turn your spindle on/off and change direction CW/CCW.
• **Spindle S-Function:**	Control spindle speed automatically; specify speed in tool library.
• **Probing Cycles:**	Automatically find part centers/corners of bosses, bores, webs, pockets.
• **WCS:**	Multiple work coordinate systems for multiple fixtures [G28-30, 52-59].
• **Subs & Macros:**	Cut one part using a family of part programs [M98, G65].
• **Tapping:**	Create threaded holes with ease.

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