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HANDY CAD MARK II

Router Application

Router Application.

The definitive solution for router processing! A feature-rich 2D/2.5D CAM system.

The router application is a 2D/2.5D CAM system that covers a wide range of fields, from woodworking to metal processing.

- Supports multi-axis spindles and outputs NC considering head-to-head pitch.
- Supports saw (cutter) heads, performing rotation control and material removal control automatically.
- Automatically detects areas where cutting residues occur with cutter tools or large-diameter tools, allowing reprocessing with small-diameter tools.
- Supports side processing using angle heads, significantly reducing the effort of axis conversion.
- Easily verify processes and definitions with the process tree, and simulation is possible using tool paths.
- Includes all features of the 'Milling Application,' enabling a wide range of processing from woodworking to metal processing.

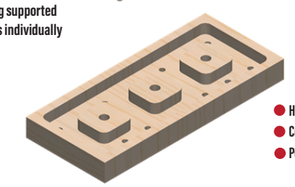
A variety of processing patterns.

2D Processing
- Shape Processing
- Contour Processing
- Pocket Processing
- Open Pocket Processing
- Face Processing
- Hole Processing
- Cutter Processing
- Engraving Processing

2.5D Processing
- Taper Processing
- Slope Z Processing
- Slope XY Processing
- Contour Line Processing

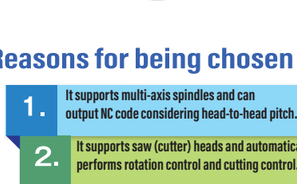
- Supports multi-axis spindles
  Head-to-head pitch specification available
- Synchronization processing supported
  Symmetrical simultaneous processing supported
  Can process symmetrical components individually

- Shape machining
- Circular saw machining
- Open pocket machining

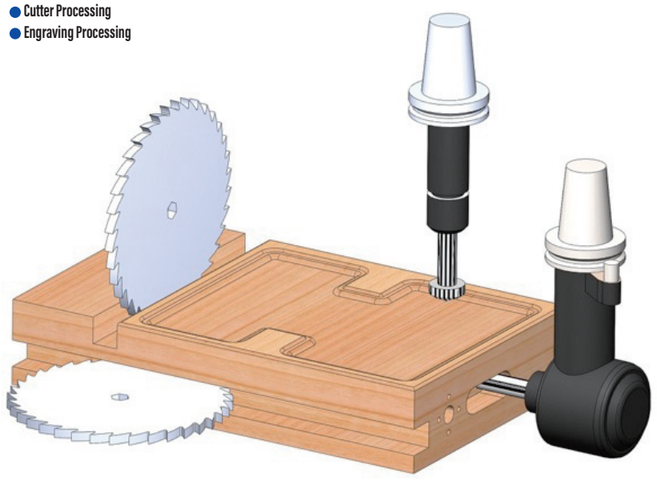


- Hole machining
- Contour machining
- Pocket machining

- Contour machining (2.5D)
- Contour machining
- Pocket machining



- Contour machining (2.5D)



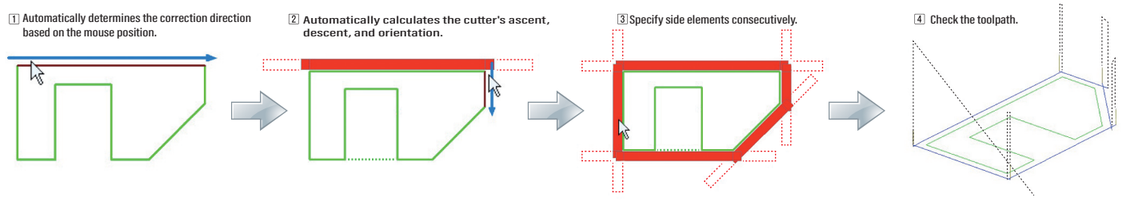
- It supports machining using an angle head with the ability to switch between flat surfaces.(G17、G18、G19)
- It is possible to specify the saw turning position pitch.
- The saw diameter and machining depth help prevent excessive cutting.
- Leftover material after saw machining is automatically detected.

Reasons for being chosen

1. It supports multi-axis spindles and can output NC code considering head-to-head pitch.
2. It supports saw (cutter) heads and automatically performs rotation control and cutting control.
3. Areas of leftover material caused by cutter tools or large-diameter tools are automatically detected, allowing for rework using smaller diameter tools.
4. It supports side machining using an angle head and significantly reduces the effort required for axis conversion.
5. The process tree allows easy verification of processes and definitions,and simulation of tool paths is possible.

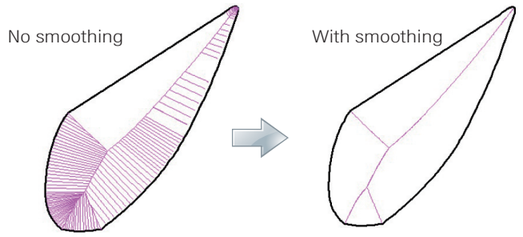
Processing definitions specialized for cutter tools

Definitions using cutter tools can be created simply by specifying side elements or two points with the mouse.
The system calculates paths that control material removal.
Entry and exit amounts can be specified for each side element, and the system automatically calculates the cutter tool's ascent, descent, and orientation.

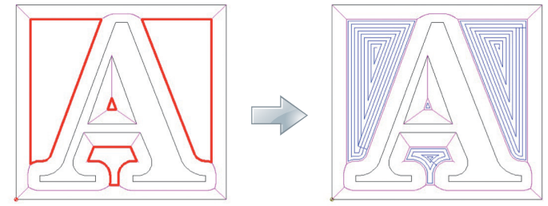


Engraving with a V-Bit Tool

Using a V-bit tool with a sharp tip, it is possible to create sharp edges at corner areas during machining.
This technique is ideal for achieving precise details and smooth transitions in designs.



Even with brush-style fonts or complex design drawings, advanced smoothing processes can maintain both high calculation speed and machining accuracy.

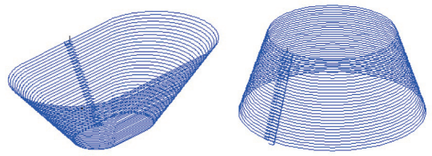


Even when performing pocket machining on the exterior of a protruded shape, defining it is as simple as sending a "no-cut loop.".

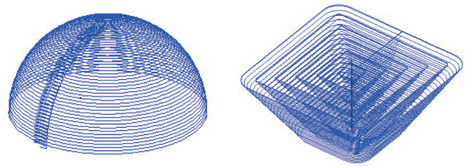
2.5D Processing

With commands suited for machining surfaces, you can easily define the machining process.
You can utilize tools such as ball end mills, flat end mills, and radius end mills. (For sloping Z operations, only ball end mills can be used; other tools are not compatible.)

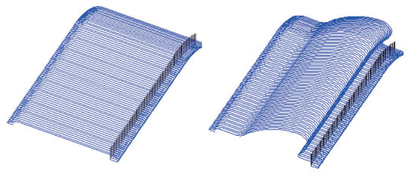
Taper By specifying the top and bottom shapes, the system automatically detects the necessary elements and defines the machining process.



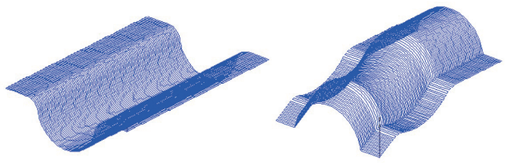
contour lines From the XY plane, the basic shape is specified, and from the XZ plane, the sloped shape is defined. Both finishing and roughing operations are selectable, with options for roughing including features like spot drilling, helical entry, and other approache



Slope XY From the basic shape on the XY plane, machining can be defined for a single slope.



Slope Z The basic shape on the YZ or ZX plane can be machined along the slope.



Basic specifications

- 2D Machining Definition: Shape,Contour,Pocket,Open Pocket,Hole,Face,Cutter,Engraving
- 2.5D Machining Definition: Contour Line,Taper,Slope XY,Slope Z
- Auxiliary Function: It is possible to edit previously created definitions through properties and redefinition. Includes a function to detect leftover material.
- Placement: Processes can be arranged in parallel, grid, rotation, and symmetry (with a delete function). ※ When arranged symmetrically, upcut/downcut will be adjusted accordingly.

- Post-processing: G-Code Management: Ability to manage modal commands, coordinates, and specify various significant digit counts.
  Program Representation: Absolute or incremental values can be specified for both main and sub-programs.
  Circular Command: IJ specification, R specification, and automatic switching between IJ/R. Helical arc approximation function included.
  Corner Deceleration Settings: Ability to set corner slowdown.
  Work Coordinate Setting: Setting possible for work coordinates.
  Multi-Axis Spindle Pitch: Configurable for multi-axis spindles.
  Cutter Head Settings: XY extension, orientation, and address settings for cutter heads.
  Cutter Head Clamping Script: Setting possible for cutter head rotational unclamping script.

- Inspection function: Feed and Rotation Range Settings: Settings and inspection functions for effective ranges.
  Tool Effective Length Settings: Setting and inspection functions for tool lengths.
  Diameter Correction Value Duplication Check: Function to check for duplicate diameter correction values.
  Maximum Arc Radius Overrun: Conversion of data exceeding the maximum arc radius to approximate data.
  Minimum Arc Length Check: Conversion of data below the minimum arc length to approximate data.
- NC Generation Assistance: During NC generation, it is possible to create work instructions.
  The number of tool changes during hole machining can be optimized

- Mouse recognition: Simultaneous input of elements/coordinates
  Navigation, dragging, and rubber band input assistance
- Search Loop Recognition: Continuous element automatic recognition, recognition of outer boundaries with one click, recognition of multiple inner boundaries, and recognition of multiple outer boundaries by diagonal point specification are possible.
  Mask settings for recognition condition settings are also available.
  There are no restrictions on the number of elements or loops for recognition and calculation (dependent on computer environment).