Max 5 Console Graphics
WinMax 5 Graphics
New Graphics UI (user interface)

- All functions are available on one top level menu that makes it easier to use than the current graphics menu.
- Additional Machine Configuration Settings to make it easier to render programs for different machine types.
- Additional Graphics Optimizations to speed up the rendering process.
Menu Layout

- Tools for Zoom, Pan, Rotate, Refresh, Opaque/Fill

- Select Views XY, XZ, YZ, ISO and Quad (all views)

- Draw Functions

- Data Block Search

- Graphics Options
Tools – Zoom, Pan, Rotate

Use these buttons to select Zoom, Pan and Rotate mode. Selecting the Zoom button puts you in Zoom Mode.

You can use the + and – buttons to zoom in and out.

Or you can touch the screen and drag a box around the part model to select a section to zoom into.

You can also use a mouse and cursor to drag a box around the model by holding down the left mouse button.
Tools – Zoom, Pan, Rotate

Select the Pan button to move the model up/down or left/right.

Or you can use the arrow keys to move the image up/down or left/right.
Tools – Zoom, Pan, Rotate

Select the Rotate button to rotate the model about the Z axis or the X axis.

Use the Up and Down arrow to rotate about the X axis.
Use the Left and Right arrow to rotate about the Z axis.

You can also hold down the right mouse button and the Shift key on the keyboard to freely rotate the model in any orientation.

This function applies only to the ISO view. It is not active in XY, YZ, XZ views or Quad views.
Tools – Zoom, Pan, Rotate

The center button will undo the last operation that was done in the current mode. For example, when in Zoom mode, it will undo the last zoom level. The same is true for the Pan and Rotate modes.
Tools – Zoom, Pan, Rotate

Reset All will restore the part model size and orientation to the default view.
Tools – Zoom, Pan, Rotate

You can toggle the stock to either Opaque or Transparent using this button.
The Fill button will not change the orientation that you have defined but will fit the part to fill the screen.
The measure button will let you select a point using the mouse or touch screen and drag a line across the part. It will display the current position as you drag the line and the line length at the top of the screen. Note that Measure is not available in ISO or Quad views.
Views – XY, XZ, YZ, ISO, QUAD

This set of buttons lets you select one of these views.

Remember that Measure is not available in ISO or Quad View. Rotate is only available in ISO view.
Draw Functions

This set of buttons lets you select whether to draw the entire part, or a single block at a time or to draw to the next tool change.
Draw Functions

These buttons let you select the rendering speed. Values can be 1 through 4 or Max speed.

With the higher speeds the refresh of the rendered image is updated less frequently however the overall time to complete the rendering will take less time.

For example, a part that takes 1 minute and 30 seconds to render in Max speed may take 2 minutes and 30 seconds to render at the 1 speed.
Draw Functions

This is the Draw button. Press this to render the part.
This button will clear the graphics screen. It also changes its label to Abort when the part is being rendered so that you can stop the rendering process.
This is the Data Block (DB) Search button. The button is available after a part has been drawn.

When this button is selected (has the blue highlight) then you can use the cursor or touch the screen to select a segment of tool path to search. After selecting the tool path it is highlighted. You can then press the Jump button to jump to that line or data block in the part program.
This set of buttons lets you capture a screen shot to be saved with the program, smooth the graphics image, and set additional graphics settings.
Options – Capture, Smooth, Settings

After the part is drawn you can capture that graphic image and store it with the part program. When you press this button a dialog (see below) will appear that states the image has been stored.

Conversational programs store the image in the conversational file.

G Code programs store the image in a .BMP file with the program name.
If you toggle the Smooth button on then every time you change the “camera” view, i.e. rotate, zoom, pan, the part will be smoothed.
Options - Settings

The Settings button takes you to a settings screen.
Options – Settings

The Settings are divided into three tabs:

- Display Settings
- Performance Settings
- Machine Configuration
Display Settings

Show Tool Path

Show Part

Show All

Show Graphics setting lets you select Show only the tool path, the part or show all (both tool path and part)
These toggles let you decide what to include in the display; Tool Paths, Rapids, Plunges and Part Surface and Stock Outline.

Part Surface is defined as the cutter compensated surface for G Code programs or the part geometry as defined in the conversational part program.

Each of these drawing features are drawn in the color you see on the toggle indicators.
Display Settings

Render Mode may be either Solid surface or Wire Frame or Both.

Solid

Wire Frame

All
Enable Runtime Tool Display lets you turn the simulation of the tool on and off.
Display Settings

You can set the default view to any one of the five views:

- **XY**
- **XZ**
- **YZ**
- **ISO**
- **QUAD**
You can increase or decrease the volumetric precision. This affects the degree of smoothing for solid rendering.
Performance Settings

You can choose to display all roughing passes or to display only the final roughing pass for 2D contours or for 3D Molds and Swept Surfaces independently.

The main reason for allowing you to set this is so that you can turn off the display of all but the final roughing passes to help speed up graphics processing.

Note: These two settings are available only when you have the Display Setting – Show Graphics parameter set to Tool Path.
Performance Settings

- Show Roughing Tool Path for 2D Surfaces
- Show Roughing Tool Path for 3D Surfaces
- Use chord error from program
- Graphics Chord Error
- Graphics Optimization

Roughing Pass Shown

Roughing Pass Not Shown
Performance Settings

You can also choose to use the Chord Error that is defined in the part program parameters or you can over ride that and choose a different chord error.

Using a larger chord error can also speed up graphics processing without sacrificing the quality of the part finish (you don’t have to change the program’s tool path chord error.)

The chord error is displayed and set in the units (inch/mm) that you have set for the program.
Performance Settings

Graphics Optimization is another setting that allows you to optimize graphics performance. The allowed settings are None, Partial or Full.
Machine Configuration settings are used to override the Rotary Configuration that is defined for the machine for graphical purposes only.

This is typically used only on desktop software to make it easier to change graphics settings for different programs without having to launch a machine selector to change the machine configuration.
When Override Machine Configuration is enabled you can change the Rotary Axis ISO setting from Standard to NonStandard.

For example: In ISO Standard the Tilt A table on a trunnion machine will tilt towards the front of the machine when commanded in the negative direction. When not in ISO standard the table will tilt away from the front of the machine when commanded in the negative direction.
When Override Machine Configuration is enabled you can also change the Tilt Axis Preference.

Tilt Axis Preference can be set to either Negative, Positive or Neutral.

Note: Again, these settings are here simply to make it easier to change a machine configuration on a desktop software to verify a part program. You would typically not change this setting on a machine unless you were looking to verify a program to be run on a different machine.
The Universal Type setting lets you change the program type to any of the possible program type configurations:
You can select the DRO to display a larger position DRO with over ride settings above a smaller rendering of the part by pressing the DRO soft key.
You can set the Graphics to display a DRO under the part drawing by pressing the Graphics/DRO button.
Pressing the Graphics soft key the graphics screen will show only the rendering of the part.
When you have finished changing the graphics settings click on the Settings button again to close the Settings screen and return to the full size graphics screen.
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Questions?