

MACH CNC CONTROL SOFTWARE MAIN FEATURES AND VERSION DIFFERENCES

Standard Version Features	Mach3	Mach4 Hobby	Mach4 Industrial
Number of Planners	1	1	1
Number of Axis	6	6	6
Out of Band Axis (OBA)	0	1	6
Slave axis (uses up coordinated axes)	3	N/A	N/A
Slave motors (does not use up coordinated axes)	N/A	4 per Axis	4 per Axis
API Interface - Open to All Hardware	Yes	Yes	Yes
Extended Plugin Support	Yes	Yes	Yes
User customizable GUI	Yes	Yes	Yes
Unified (GUI) Interface - PLC, CNC, etc..		Yes	Yes
Unlimited IO	Yes	Yes	Yes
Modbus PLC	Yes	Yes	Yes
PMC (Ladder Logic addressing for cnc/plc)		Yes	Yes
Unlimited File Size		Yes	Yes
Tool Path Display	Yes	Yes	Yes
Tool Path Speed & Quality	Low	High	High
Scripting - Customization	Yes	Yes	Yes
LUA Scripting - simple, fast, cross-platform		Yes	Yes
- Lua sockets (ftp, http, smtp,..)		Yes	Yes
- SSL (security layer)		Yes	Yes
- LFS (manage large files and data storage)		Yes	Yes
- Serial port		Yes	Yes
- Engraving of part numbers / serial numbering of parts		Yes	Yes
- Plugin panel objects		Yes	Yes
IPC Library for Data Sharing/tracking (Interprocess communication)		Yes	Yes
Full Feature Screens/Controls Per Machine Type		Yes	Yes
Currently Availabe: Mill, Router, Lathe, 3d Printer		Yes	Yes
Multiple gcode interpreters (Per Machine Type)		Yes	Yes
Probing - Intergrated in standard screens		Yes	Yes
Simulated 3d Machining (with additional plugin license)		Yes	Yes
Tool Life Management (G10 L3 command)			Yes
Screw Mapping			Yes
Professional Screen Designer (advanced G.U.I.)			Yes
- Screen Animation Control			Yes
- Screen Integrated Tool Table Control			Yes
- Screen Integrated Work Offset Control			Yes
- Screen Integrated gcode editor			Yes
- Screen Artsoft Wizard Package Integration			Yes
Macro B gcode Programming (#variables)			Yes
- User definable gcodes via marco calls			Yes
- Macro Calls: G65, G66, G66.1			Yes
- gcode via marco call (custom G codes via macro B)			Yes
- mcode via macro call (custom M codes via macro B)			Yes
- mcode via sub code (custom M code via sup program)			Yes
- Conditional gcodes			Yes
- set VN call - define variable names			Yes
gcode Editor Included			Yes
Scripted M code (custom M code via LUA script)		Yes	Yes
Variable Speed Spindle	Yes	Yes	Yes
Spindle Relay	Yes	Yes	Yes
Coolant relay	Yes	Yes	Yes
Mist Relay	Yes	Yes	Yes
Threading	Yes	Yes	Yes
Rigid Tapping	Yes	Yes	Yes
Single Block	Yes	Yes	Yes
Block Delete	Yes	Yes	Yes
Optional Stop	Yes	Yes	Yes
Cutter Comp	Yes	Yes	Yes
Fanuc Type C Cutter Comp		Yes	Yes
Fixture Offsets	Yes	Yes	Yes
G51 Scaling	Yes	Yes	Yes
G92 Offsets	Yes	Yes	Yes

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G52 Offsets	Yes	Yes	Yes
Event Driven		Yes	Yes
Multi Line MDI		Yes	Yes
Subs In MDI		Yes	Yes
OpenGL Optimization		Yes	Yes
Multi-platform OS Compatibility Option		Yes	Yes
Online Support	Yes	Yes	Yes
Phone Support Option Available			Yes
Support Priority			Yes
Available to End Users as "Do-it-yourself"	Yes	Yes	

Summary - Mach3 versus Mach4 :

Mach4 Hobby is the closest comparable version to Mach3, yet it is still much more advanced. The price point of these versions is nearly identical. Mach3 is very popular for hobby enthusiasts and is used in highly modified form by some great OEM's. In general, Mach4 is more complex than Mach3 and follows cnc industry standards. Mach3 has many customizations to make it easier for hobby users, but can lead to difficulties if users plan to apply their knowledge to more advanced systems. Mach4 is built as a full featured cnc controller capable of high speed machining for servo and stepper systems. Mach3's feature set is complete, while Mach4's will continue to expand. If you are new to cnc, Artsoft highly recommends using and learning Mach4 even if it appears that Mach3's feature set will be adequate for your needs.