

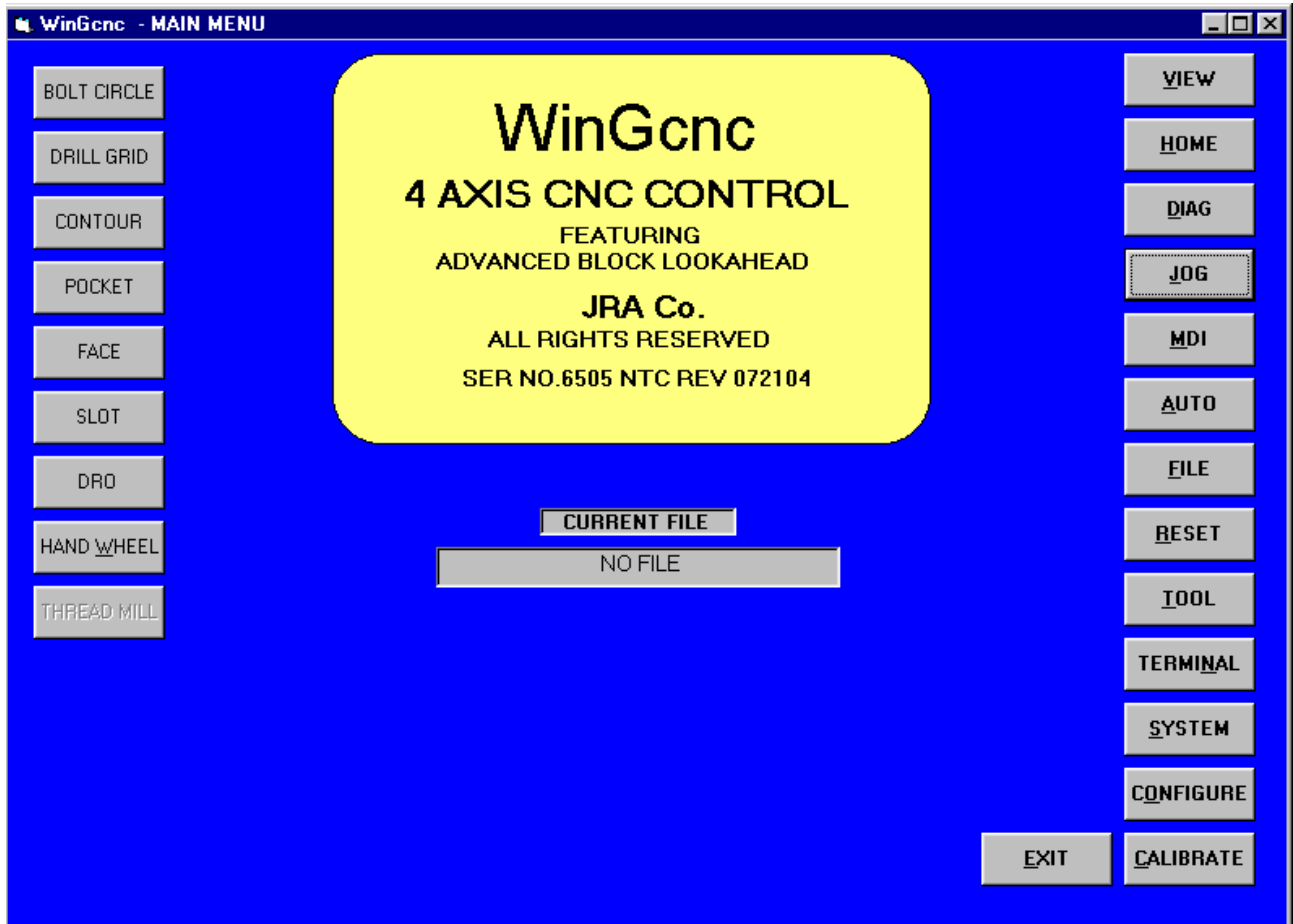
# WinGcnc

**4 AXIS CNC CONTROL FOR USE WITH GALIL 1700/1800/18x2  
CONTROLLERS  
JRA Co.**

Web <http://www.jraco.com>  
248-637-9480 248-637-9481 fax

## WinGcnc Screenshots

*See last page for system details*



WinGenc - JOG MODE

**AXIS POSITION**

X + 0000.0000 IN  
Y + 0000.0000 IN  
Z + 0000.0000 IN  
A 0001.0000 DEG

**SELECT AN AXIS**

X Y Z A

AXIS  
X

**CONTINUOUS JOG MODE**

GO STOP

**CJM FEED**

10

**DIRECTION**

+  
-

**DIRECTION POS**

**JOG INCREMENT**

0.0001 A  
0.001 B  
0.010 C  
0.100 D  
1.000 R

**DEFINE REFERENCE POSITION**

ZERO X ZERO Y ZERO Z ZERO A

**ENTER SPINDLE SPEED** [ ] **UPDATE SPINDLE**

**AUX**

M08  
M09  
M10  
M11  
M70  
M71  
M72  
M73  
ALL OFF

EXIT

Start Microsoft Word - WINGCN... 11:35 AM

WinGenc - MDI MODE

AXIS POSITION

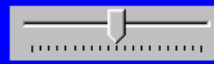
X +0000.0000 IN

Y +0000.0000 IN

Z +0000.0000 IN

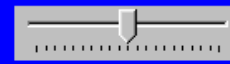
A +0001.0000 DEG

SPINDLE OVERRIDE%




100

FEED OVERRIDE %



100

PLC IDLE



PLC COMMAND

ABORT PLC

PREP

G01

G90 ABS

INCH

G00

G91 INCR

METRIC

AUX

M08

M72

M09

M73

M10

M74

M11

M75

M70

M25

M71

ALL OFF

A AXIS DEG  A START A STOP

G92 A

ACTIVE GCODES

G00 G90 G70

LAST COMMAND

ENTER COMMANDS

ENTER SPINDLE SPEED

GO SPINDLE

CYCLE START

PAUSE

RESUME

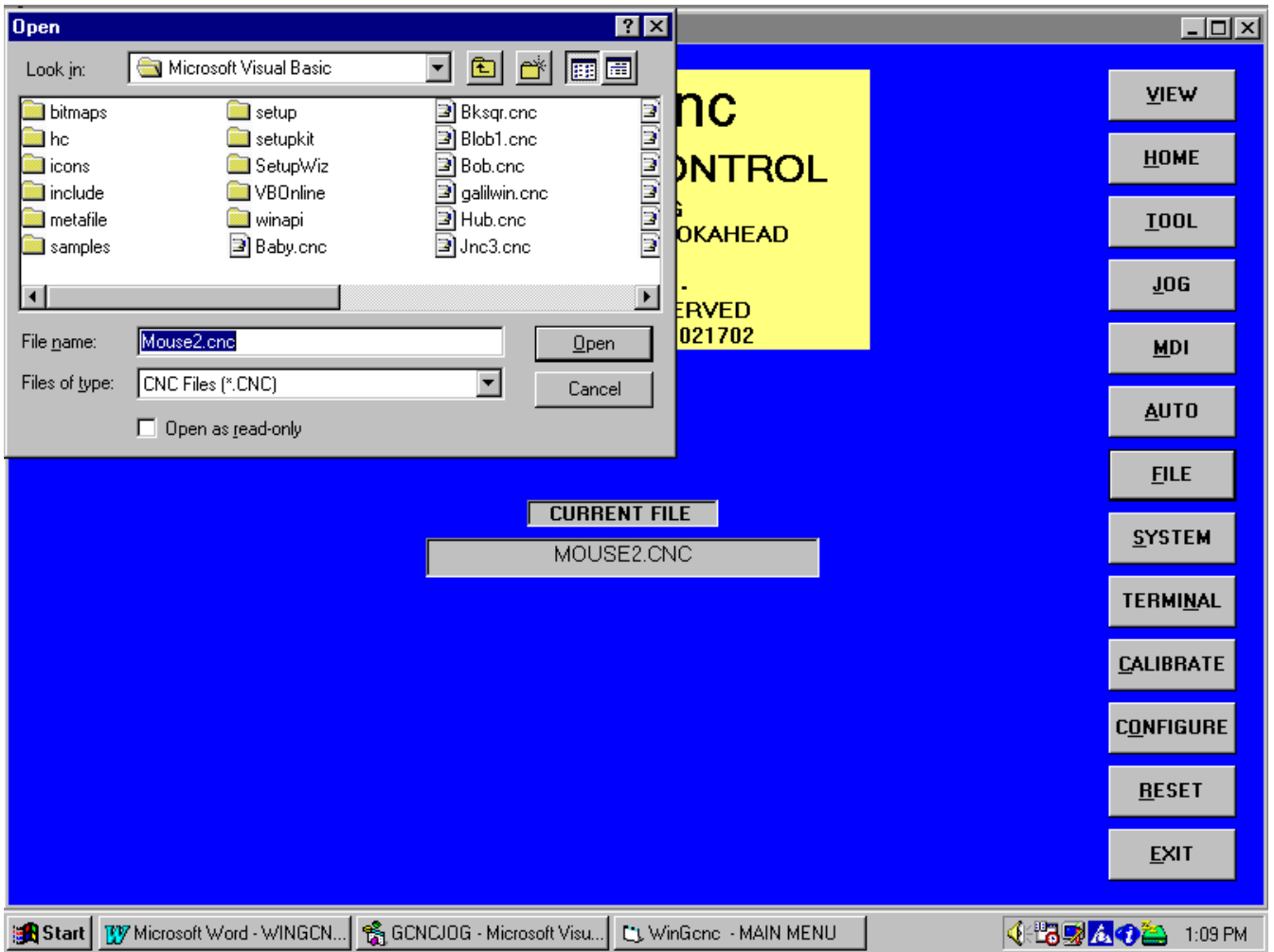
ABORT

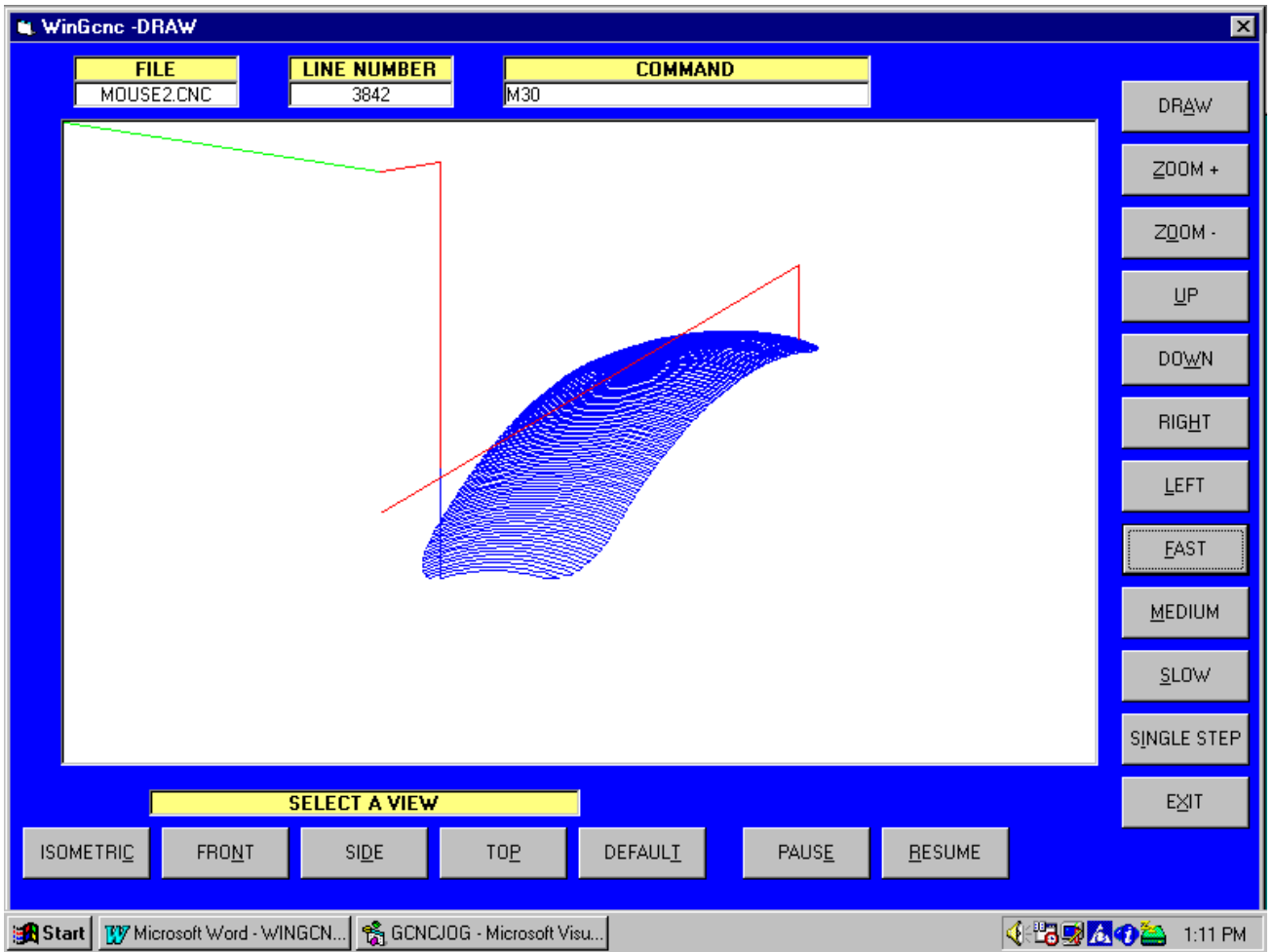
EXIT

Start

Microsoft Word - WINGCN...

 11:36 AM





**WinGenc - AUTO MODE**

**AXIS POSITION**

X + 0000.0000 IN

Y + 0000.0000 IN

Z + 0000.0000 IN

A + 0000.0000 DEG

**CURRENT BLOCK IN BUFFER**

**SPINDLE OVERRIDE %**

100

**FILE NAME**

BABY.CNC

**CURRENT LINE**

0

**TOTAL LINES**

272

**LAST FEED**

**LAST MCODE**

**CURRENT TOOL**

NO TOOL

**SPINDLE SPEED**

**FEED OVERRIDE %**

100

**AUX**

M08 M70

M09 M71

M10 M74

M11 M75

**PLC IDLE**

**PLC COMMAND**

ABORT PLC

CYCLE START

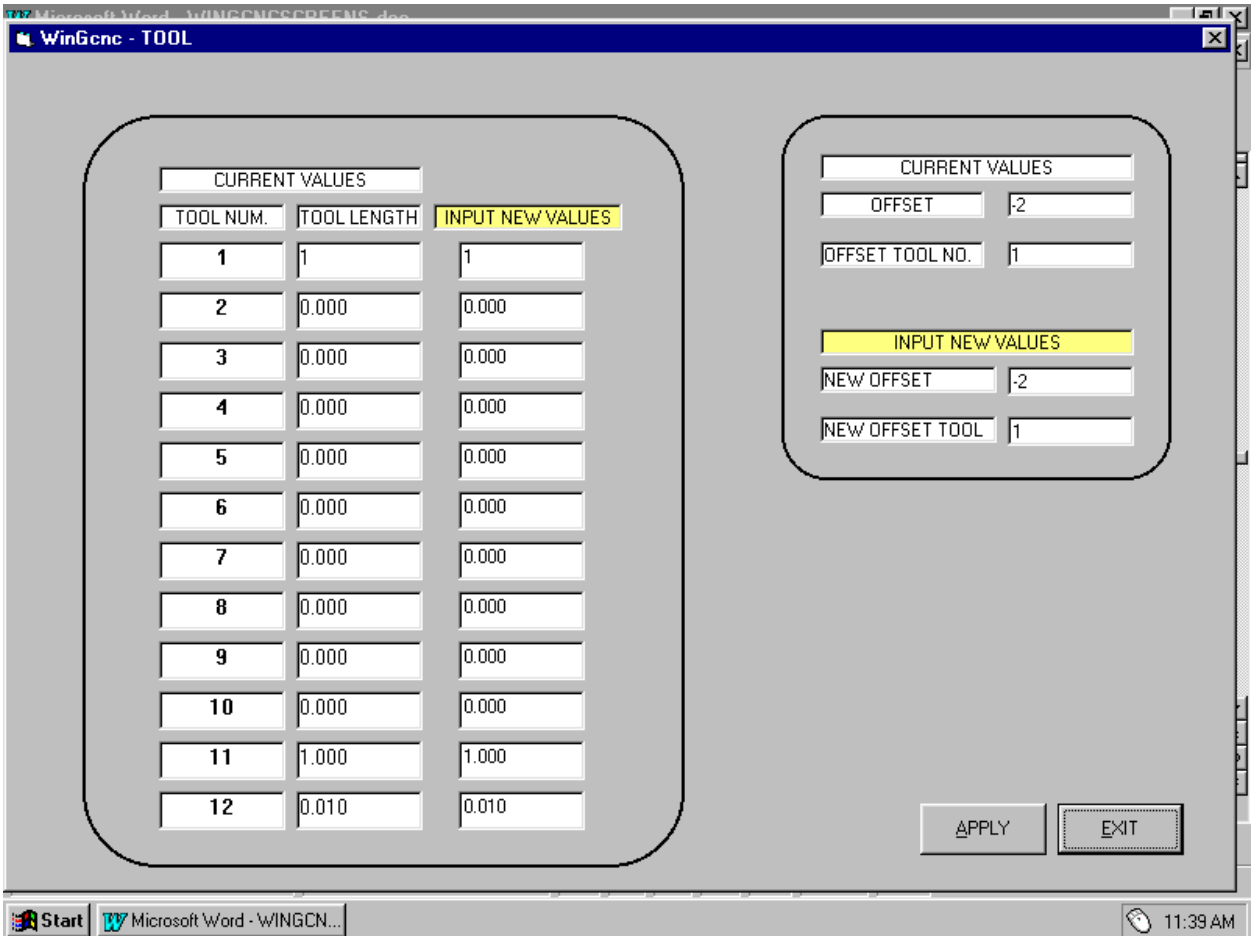
PAUSE

RESUME

ABORT

EXIT

Start GCNCJOG - Microsoft Visu... 11:53 AM

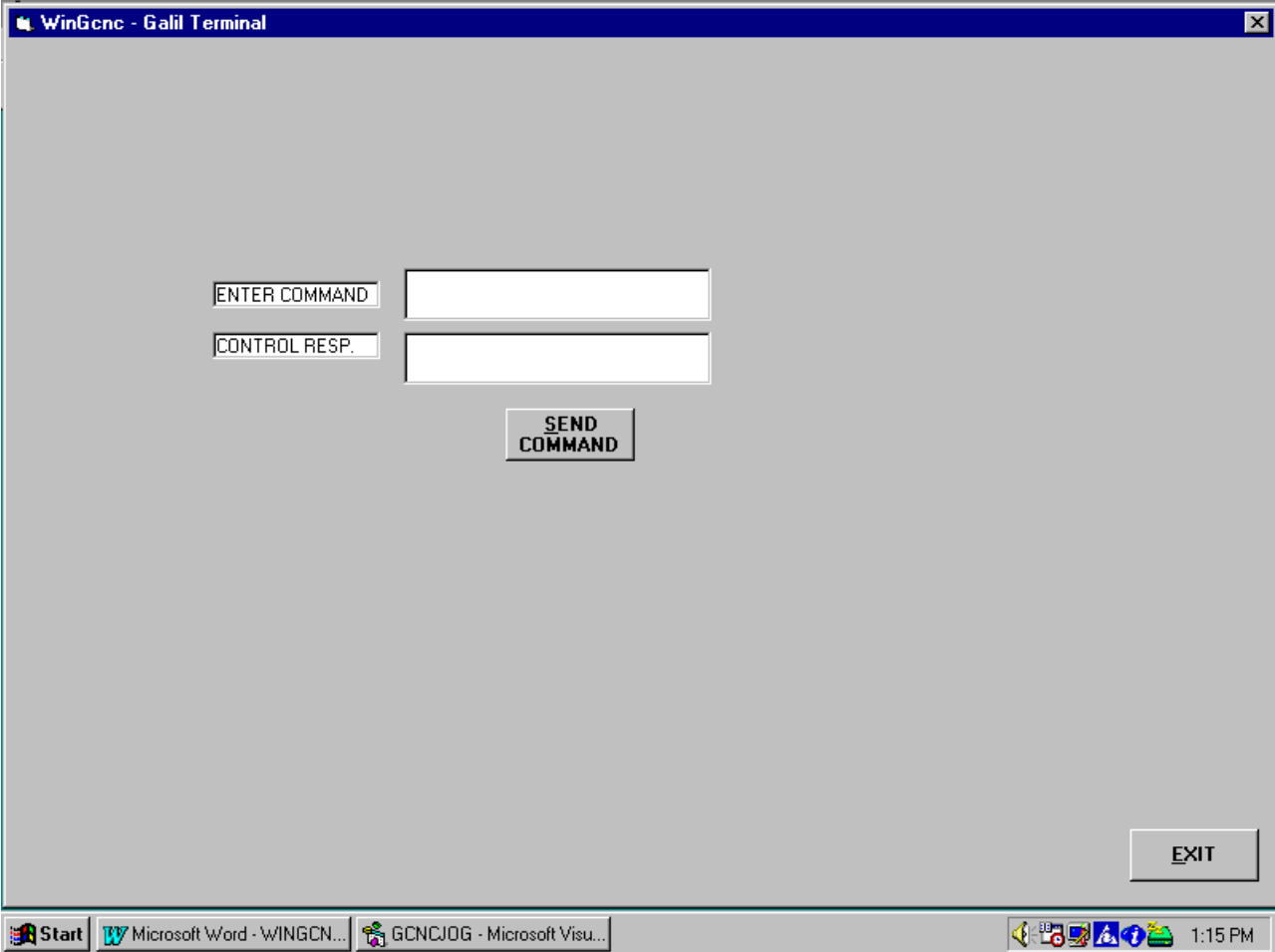


WinGenc - SYSTEM

|                   |                         |                    |       |
|-------------------|-------------------------|--------------------|-------|
| KPX,KPY,KPZ       | 6.00, 6.00, 6.00:       | BASE ADDRESS       | 59392 |
| KIX, KIY, KIZ     | 0.000, 0.000, 0.000:    | RAPID RATE in/min  | 80    |
| KDX, KDY, KDZ     | 64.00, 64.00, 64.00:    | FEED RATE in/min   | 50    |
| VELOCITY RATIO VR | 1.0000:                 | CORNER RATE (SPS)  | 3000  |
| ERROR LIMIT       | 16384, 16384, 16384:    | CORNER ANGLE (DEG) | 20    |
| OFF ON ERROR      | 0, 0, 0:                | X ENCODER C/in     | 58975 |
| TELL ERROR        | 0:                      | Y ENCODER C/in     | 58975 |
| TORQUE LIMIT      | 9.9982, 9.9982, 9.9982: | Z ENCODER C/in     | 58975 |
| VECTOR SMOOTHING  | 1.0000:                 | X ENCODER C/mm     | 787.4 |
| VECTOR ACCEEL     | 256000:                 | Y ENCODER C/mm     | 787.4 |
| VECTOR DECEL      | 256000:                 | Z ENCODER C/mm     | 787.4 |
| CONFIGURE ENCODER | 0, 0, 0:                | RAPID RATE mm/min  | 2032  |
| MTR TYPE          | 1.0, 1.0, 1.0:          | FEED RATE mm/min   | 1270  |
| HOME ACCEL        | 256000, 256000, 256000: | BUS TYPE (PCI/ISA) | PCI   |
| HOME DECELL       | 256000, 256000, 256000: | OPTIMA SERIES      | NO    |
| MTR SPEED         | 25000, 25000, 25000:    | PRINTER PORT ADD   | 888   |
| TIMING FACTOR     | 7642                    |                    |       |

EXIT

Start Microsoft Word - WINGCN... 11:39 AM



MACHINE SETTINGS

|                             | CURRENT VALUE | INPUT NEW VALUES |
|-----------------------------|---------------|------------------|
| BASE ADD (DEC)              | 59392         | 59392            |
| RAPID in/min                | 80            | 80               |
| FEED in/min                 | 50            | 50               |
| CORNER (SPS)                | 3000          | 3000             |
| CORNER ANGLE                | 20            | 20               |
| ENCCPI X                    | 58975         | 58975            |
| ENCCPI Y                    | 58975         | 58975            |
| ENCCPI Z                    | 58975         | 58975            |
| ENCCPmm X                   | 787.4         | 787.4            |
| ENCCPmm Y                   | 787.4         | 787.4            |
| ENCCPmm Z                   | 787.4         | 787.4            |
| RAPID mm/min                | 2032          | 2032             |
| FEED mm/min                 | 1270          | 1270             |
| BUS TYPE                    | PCI           |                  |
| TOOL CHG WITH PLC           | OFF           | OFF              |
| SYSTEM UNITS INCH OR METRIC | INCH          | INCH             |

SPINDLE SETTINGS

|                         | CURRENT VAL | INPUT VALUES |
|-------------------------|-------------|--------------|
| SPINDLE AXIS ( E, W, P) | P           | P            |
| MAX SPEED (RPM)         | 10000       | 10000        |
| SPINDLE SPEED ON/OFF    | OFF         | OFF          |
| PRINTER PORT ADDRESS    | 888         | 888          |

SET SPINDLE AXIS TO P FOR PAR PORT SPINDLE CONTROL CARD  
Caution !!  
IF YOU HAVE A 3 AXIS GALIL CARD AND NO P- PORT SPINDLE CARD SET TO OFF

ROTARY AXIS SETTINGS

|                   |      |      |
|-------------------|------|------|
| SELECT GALIL AXIS | W    | W    |
| COUNTS PER DEGREE | 1000 | 1000 |
| A Axis (On/Off)   | OFF  | OFF  |

SET RAPID RATE USING GALIL SP COMMAND

HANDWHEEL SETTINGS

|                    |      |      |
|--------------------|------|------|
| HANDWHEEL AXIS     | W    | W    |
| ENCODER COUNTS/REV | 8000 | 8000 |

APPLY EXIT

## WinGcnc

### Features:

- 3 axis continuous path contouring
- Optional 4<sup>th</sup> axis indexing
- Accepts standard G and Mcodes
- 500 block lookahead with corner slowdown
- 300 + block per second capability
- Drill, Peck and Boring Canned cycle Support
- Feed Override
- Real time Position Display
- Pause/Resume
- Tool length Offsets
- Auto,Jog and MDI Modes
- ToolPath display in Top,Side and Isometric Views
- Pendant Support
- Intuitive flexible user interface supports Keyboard,Mouse and pendant
- Easily configurable to different machines
- Runs on Win95 / Win98/Win2000 /XP
- No Hardware Key ( Dongle )
- Optional conversational programming
- Supports Handwheels
- Supports Spindle speed control

### Description

The **WinGcnc** software and Galil motion controller card combination provide state of the art 4 axis cnc capability for the control of servo driven machinery. A simple Windows user interface provides total machine control with standard **Jog, Auto and MDI modes**. Feed override( 0-200%) ,pause and resume allow dynamic speed changes while running the tool path. Graphics mode allows viewing of the toolpath prior to running. Tool length offsets are supported as well as toolchanges. **WinGcnc** accepts standard gcode input and excels at running cam generated tool paths at high speeds. Advanced block lookahead algorithms insure smooth accurate machining in 3 axes. User configurable parameters allow easy setup for your machine. Ideal for retrofitters,machine builders, **Wingcnc** is easy to configure,easier to run and requires no knowledge of Galil programming commands. Optional handheld pendants are also available for remote operation of the machine. Our latest features include 4<sup>th</sup> axis indexing and our conversational programming add-on. Consult the Wingcnc manual for more information.

## PLC support

Another addition to **WinGcnc** is our easy to use soft PLC. This easy to use feature allows you to create your own plc programs to control tool changers or any other hardware. Simply create a subprogram in a text editor using the appropriate command for turning an output on/off, pausing for a limit switch or waiting for a BCD pattern to appear on the appropriate inputs. In the case of a toolchanger routine this plc program will be enabled whenever a toolchange is called via the gcode file. Other plc programs may be called by an mcode within the gcode file. No more need for ladder logic programming. The instructions are so simple anyone can now control I/O.

### Example:

| <b>Command</b> | <b>Action</b>                |
|----------------|------------------------------|
| P5             | Pause 5 sec                  |
| M08            | Output 1 on                  |
| P8             | Pause 8 sec                  |
| M09            | Output 1 off                 |
| WFLS1          | Wait for switch 1 to go low  |
| WFHS1          | Wait for switch 1 to go high |
| WFBCD4         | Wait for bcd 4 on switches   |
| EOP            | End of program               |

## Minimum System Requirements

Pentium 400 Mhz  
16 Mb Ram  
Win 95/98/Win2000/XP  
600 x 800 SVGA monitor display resolution  
1 GB Harddrive

Mother board requirements depend on Galil controller series (see list below)

1 open PCI slot for Galil 1800/18x2 series controller  
or  
1 open ISA slot for Galil 1700 series controller

**Prices****4-05**

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|                                       |          |
|---------------------------------------|----------|
| WinGcnc (For Win95/98)                | \$395.00 |
| Win2000/XP upgrade (Requires WinGcnc) | \$125.00 |
| Conversational addon                  | \$175.00 |
| 4 <sup>th</sup> axis indexing add-on  | \$100.00 |
| Pendant                               | \$395.00 |
| Handwheel Pendant                     | \$525.00 |

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