

MISCELLANEOUS CODES (M CODES)	
CODE	FUNCTION
M00	Program Stop
M01	Optional Stop
M02	End of Program
M30	Rewind
M50	Symbol Scale #1
M51	Symbol Scale #2
M52	Symbol Scale #3
M53	Symbol Scale #4
M54	Symbol Scale #5
M64	Offset

SYMBOL ROTATION CODE (W CODE)	
CODE	FUNCTION
W ±n	Rotate symbol n degrees (3.3 format) (- = clockwise, + = counterclockwise)

COMPRESSED SYMBOL FORMAT		
1st character	Always 0	
2nd character	Pen condition	0 = pen up 1 = pen down
3rd character	Linear or circular	0 = linear 1 = circular
4th character	Circular direction (always clockwise)	1 = clockwise
5th, 6th characters	Number of circular quadrants	00 = 1 quadrant 01 = 2 quadrants 10 = 3 quadrants 11 = 4 quadrants
7th character	Sign of X in linear mode or sign of I in circular mode	+ or -
8th, 9th characters	Value of X in linear mode or value of I in circular mode, in mils	00 to 15
10th character	Sign of Y in linear mode or sign of J in circular mode	+ or -
11th, 12th characters	Value of Y in linear mode or value of J in circular mode, in mils	00 to 15 00 = 1 quadrant
13th character	EOB	

# MODEL 3100

PLOTTER CONTROL

OPERATOR'S REFERENCE CARD



The Gerber Scientific Instrument Company  
P.O. Box 305, Hartford, CT 06101, (203) 644-1551

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## PROGRAM LOADING

1. Set the POWER ON switch to the ON position.
2. If the system-software disk is already in the disk drive, the system software is read. Go to Step 4.
3. If the system-software disk is not already in the disk drive or if a new disk is to be read, install the disk in the disk drive and press the PROGRAM LOAD button. Continue with Step 4.
4. When loading is complete, the red light on the disk drive should go out, and the HALT indicator on the control box should be lit. The current parameter values will be displayed on the terminal.
5. Press the RETURN key on the terminal. The terminal will show the Control Mode menu.

MASS PARAMETERS		
PARAMETER	FORMAT	DEFAULT VALUE
STANDARD PARAMETERS		
LOAD SYMBOL	LS $\left\{ \begin{matrix} 0 \\ 1 \\ 2 \end{matrix} \right\} \left\{ \begin{matrix} 0 \\ 1 \\ 2 \end{matrix} \right\}$	none
OFFSET	OF A ±n B ±n	OF A0.00000 B0.00000
FORMAT STATEMENT	FS $\left\{ \begin{matrix} L \\ T \end{matrix} \right\} \left\{ \begin{matrix} A \\ I \end{matrix} \right\}$ (Mn)(Xn)(Yn)(Zn) (Gn)(Dn)(Mn)	FS L1 X43 Y43 Z43
SCALE FACTOR	SF An Bn	SF A1.00000 B1.00000
AXIS SELECT	AS A $\left\{ \begin{matrix} X \\ Y \\ Z \end{matrix} \right\}$ B $\left\{ \begin{matrix} X \\ Y \\ Z \end{matrix} \right\}$	AS AX BY
STARTING NUMBER	NS n	none
FINISHING NUMBER	NF n	none
VELOCITY	VL $\left\{ \begin{matrix} 0 \\ : \\ 100 \end{matrix} \right\}$	VL 100
DASH LINE	DL (D4n/m)(D6n/m)(D7n/m)	DL D4 0.50/0.50 D6 0.50/0.50 D7 0.50/0.50
INPUT DISPLAY	ID (N,G,M,D,X,Y)	none
MIRROR IMAGE	MI A $\left\{ \begin{matrix} 0 \\ 1 \end{matrix} \right\}$ B $\left\{ \begin{matrix} 0 \\ 1 \end{matrix} \right\}$	MI A0 B0
BLOCK DELETE	BD $\left\{ \begin{matrix} 0 \\ 1 \end{matrix} \right\}$	BD 0
OPTIONAL STOP	OP $\left\{ \begin{matrix} 0 \\ 1 \end{matrix} \right\}$	OP 0
SYMBOL MIRROR	SM A $\left\{ \begin{matrix} 0 \\ 1 \end{matrix} \right\}$ B $\left\{ \begin{matrix} 0 \\ 1 \end{matrix} \right\}$	SM A0 B0
SYMBOL SCALE	SS (M50n)(M51n)(M52n) (M53n)(M54n)	SS M50 10.00 M51 25.00 M52 50.00 M53 75.00 M54 100.00
MODE	MO $\left\{ \begin{matrix} IN \\ MM \end{matrix} \right\}$	MC IN
WINDOW	WI (ALn)(AUn)(BLn)(BUn)	Depends on plotter size

## TERMINAL PARAMETERS

>1

Control Mode

\*\*\*\*You may not plot until plotter is initialized.

- 1 Run The Plotter
- 2 Parameter Edit
- 3 Plotter Utilities
- 4 Console Plot
- 5 Plotter Functions
- 99 Exit Control Mode

Please enter menu choice

>

>2

Parameter Edit

- |                            |                        |
|----------------------------|------------------------|
| 1 Input Data Formats       | 2 Input Device         |
| 3 Scale Factor             | 4 Axis Select          |
| 5 Dashed Line              | 6 Mirror Image         |
| 7 Velocity Limit           | 8 Acceleration Limit   |
| 9 Plotter Delays           | 10 Table Window        |
| 11 Aperture Velocity       | 12 Aperture Offset     |
| 13 Initialize Distance     | 14 Circular Resolution |
| 15 Format Statement        | 16 Input Data Display  |
| 17 Offset                  | 18 Input Data Mode     |
| 19 Sequence Number Start   | 20 Sequence Number End |
| 21 Block Delete            | 22 Optional Stop       |
| 23 Symbol Mirror           | 24 Symbol Scale        |
| 25 End of Block Character  | 26 Parameter Delimiter |
| 27 RS232 Menu              | 28 Stop on Error       |
| 29 Stop on Parameter Error |                        |
| 99 Exit                    |                        |

Please enter menu choice

>

>3

Utilities

- 1 Multiple files processing
- 2 Load user defined symbols
- 3 Dump program
- 4 Format floppy diskette
- 5 Aperture selection
- 99 Exit

Please enter menu choice

>

>4

Console Plot

Please enter menu choice

>

>5

Plotter Functions

- 1 Initialize
- 2 Set origin
- 3 Single step mode
- 4 Continuous plot mode
- 5 Pen controlled by data
- 6 Force pen up
- 7 Force pen down
- 8 Clear input data buffer
- 9 Magnetic tape file search
- 10 Photo head installed
- 11 Pen head installed
- 99 Exit

Please enter menu choice

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## DRAFT CODES (D CODES)

CODE	FUNCTION
D01	Tool down
D02	Tool up
D03	Plot X or OEH Flash
D04	Dash line #1 on
D05	Dash line off
D06	Dash line #2 on
D07	Center line on
D10 - D19	Apertures 1-10
D70 - D71	Apertures 11-12
D20 - D29	Apertures 13-22
D72 - D73	Apertures 23-24
D10 - D99	Symbol set selection (preceded by G56, G57, or G58)
D10 - D15	Tool selection (preceded by G54)

## PREPARATORY CODES (G CODES)

CODE	FUNCTION
G01	Linear interpolation, 1X scale
G02, G20, G21	90° Circular interpolation, clockwise
G03, G30, G31	90° Circular interpolation, counterclockwise
G04	Ignore this block of data only (Revert to G01 if no valid G code appears in next block)
G06	Parabolic interpolation (optional)
G07	Cubic interpolation (optional)
G10	Linear interpolation, 10X scale
G11	Linear interpolation, 0.1X scale
G12	Linear interpolation, 0.01X scale
G54	Tool select
G55	Photo expose mode
G56	Draw symbol
G57	Display symbol
G58	Draw and display type symbol
G60	Linear interpolation, long dimension 100X scale
G70	Inch units
G71	Millimeter units
G74	Turn off 360° circular interpolation (Revert to G01)
G75	360° Circular interpolation signed I, J, K
G90	Absolute input mode
G91	Incremental input mode