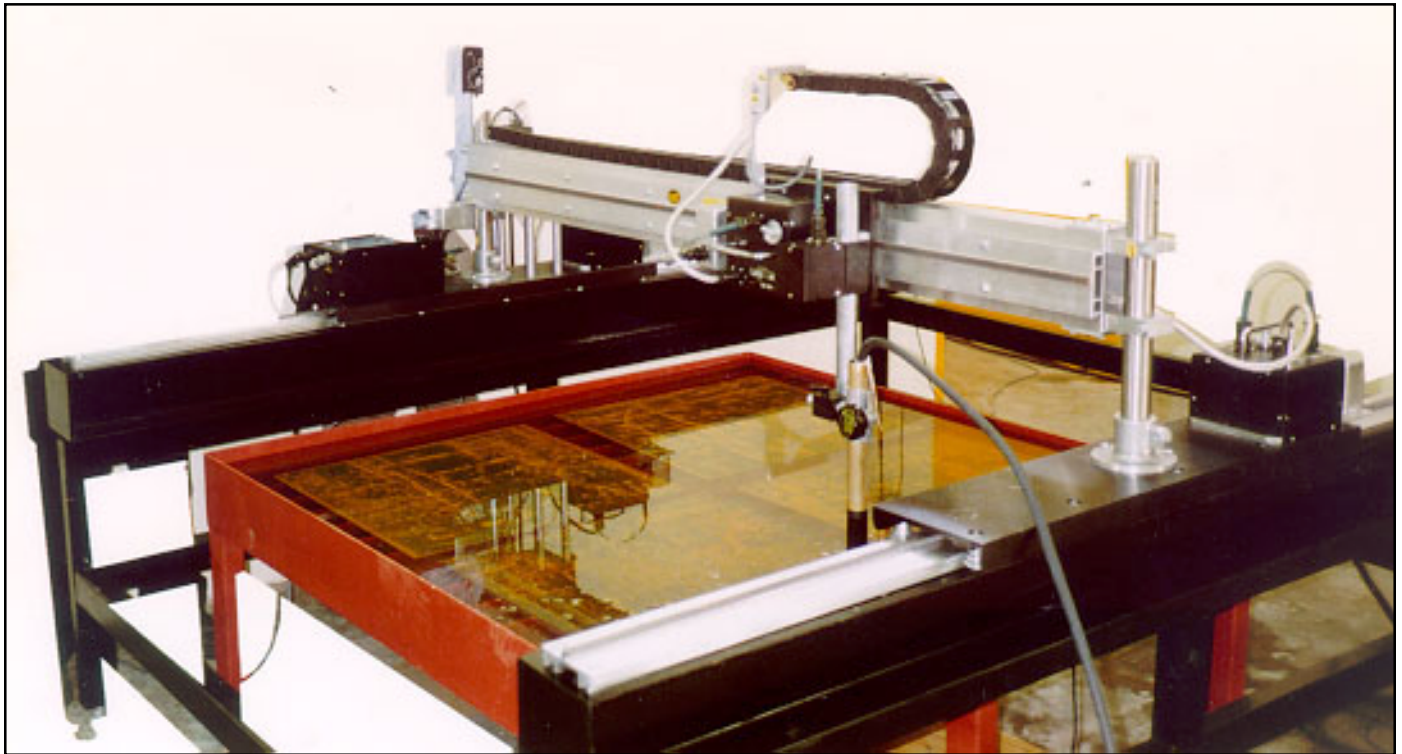




CNC Cutting Machine Burns Virtually Any Shape Or Pattern.

Download NC or CAD drawings into the Programmable Gantry System.



The **Programmable Gantry System** provides coordinated motion in two axis, using three drives: two synchronized motors drive the main carriages along the X-axis, and one drives the Y-axis crossbeam carriage. The machine can be easily programmed to repeat any contour or pattern for either cutting or welding applications. A handheld terminal supplied with the machine is used to program the required shape and operation sequence. Other functions besides moves can be programmed, such as starts, stops, delays, repeats and rapid traverse. Ten programs can be stored in machine memory at any one time.

A PC option is available which includes a connecting cable and a software program. With this, the operator can create any number of shapes on a PC and store them on disk. Selected shapes can then be downloaded into the machine as needed.

The **Programmable Gantry System** is shipped in major subassemblies that are easy to assemble and install on your burning table.

PATENTS WORLDWIDE



B U G - O S Y S T E M S
A DIVISION OF WELD TOOLING CORPORATION



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Programmable Gantry System

The CNC Gantry System is a two-axis gantry that has dual side synchronized drives running on parallel tracks, and a second axis drive carrying a cutting torch that runs on a crossbeam. It can be used for flame or plasma cutting, or for welding, of a variety of shapes which are programmed and stored in memory.

The machine memory stores ten different programmed shapes, numbered 0 to 9. At any time, one of these shapes is current, and will stay current even when the power is shut off and turned back on, until the shape number is changed by the operator.

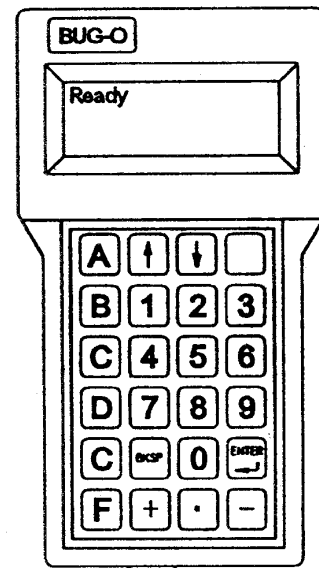
All programming is done with the handheld terminal provided, or by downloading from a PC using the PC option. The terminal plugs into a connector on the control box, and can be removed at any time. It is not needed to run the machine.

Shapes or patterns are constructed using segments. To do this, select the type of segment required and its quadrant from the programming chart, and enter it on the terminal keypad. Any one shape can have up to 50 segments. Other functions such as weld/oxygen, on/off, time delay, or repeat another shape a number of times, also count as one segment each if used.

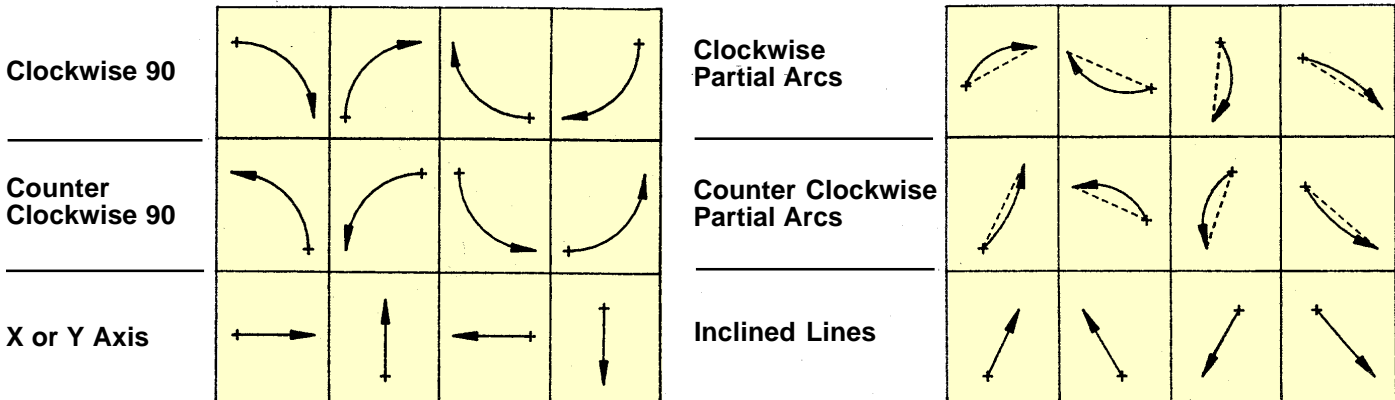
Handheld Terminal Functions:

The programming operation is selected by pressing keys A, B, C, D, or E.

- A. ALL SEGMENTS; press "A" on the terminal to program a new shape; enter the total number of segments and data for each segment.
- B. REVISE SEGMENT; press "B" on the terminal to re-program a single segment. This is useful if there is an error in data for just one segment, so that the whole shape does not have to be re-entered.
- C. CHANGE SHAPE NUMBER; press "C" on the terminal to change the current shape number. The program switches to the new number in memory, and to whatever shape is stored there.
- D. DISPLAY SHAPE DATE; press "D" to display the data for the current shape. The terminal display shows the total number of segments, and data for each segment one by one each time you press enter.
- E. END OF SEGMENT SLOWDOWN; press "E" to set the value of deceleration for the shape, when the machine approaches the end of each segment. This is useful when the shape has sharp corners, to prevent overshoot. **99** is maximum slowdown, **0** is no slowdown.



The different types of segments that can be loaded into the machine are as follows:



Other functions besides the moves shown above are: Weld Contact/Solenoid On/Off, Pause, Delay, Repeat another shape, Full ellipse and Rapid Traverse.



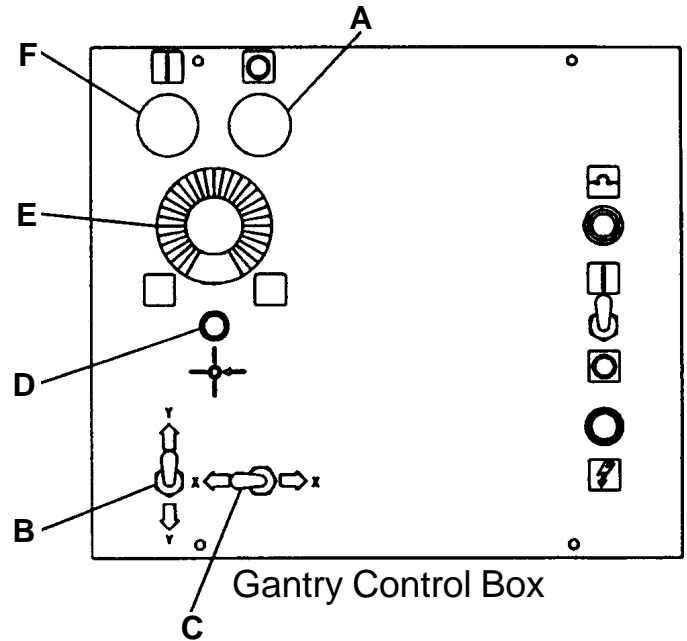
Programmable Gantry System

Operation:

When the machine is plugged in and the power turned on, this is the reference, start or home position.

There are three options (the handheld terminal is not needed for the first two):

1. **MOVE:** To change the start position, push the **STOP/PAUSE** button (A), move the machine manually to the required position using toggle switches (B) and (C), and push the reset button (D).
2. **RUN:** Set the speed knob (E) and push the **START/RUN** button (F) to cut/weld a shape.
3. **PROGRAM:** The programming operation requires the use of the handheld terminal or downloading from a PC.



Technical Data:

Programmable Gantry System

Power Requirements:	PGS-1000-_*120 VAC/50-60 Hz/1 PGS-1002-_*240 VAC/50-60 Hz/1
Travel Speed:	4-80 in/min (100-2000 mm/min)
Maximum Segment Dimension:	72" (1800 mm) Within Limits of Travel
Minimum Dimension Increment:	Inches: 0.01" Metric: 0.1 mm
Delay Increment:	0.01 seconds
Maximum Delay:	99.99 seconds

* Available in 3 Standard Sizes: 8, 10 and 12 ft.

PGS-100_-8 Actual \varnothing to \varnothing is 96.5" (2451 mm)
 PGS-100_-10 Actual \varnothing to \varnothing is 120" (3048 mm)
 PGS-100_-12 Actual \varnothing to \varnothing is 143" (3632 mm)

COMPUTER SOFTWARE

The gantry can be programmed from a PC, using either of two software packages described below. Shapes can be created off-line, and downloaded to the machine when required. Each program is supplied with a cable to connect to the serial port of the PC.

1. PC Option.

This runs under MS-DOS, and allows you to:

- Create shapes on the PC.
- Save any number of shapes to disk, and retrieve them as necessary.
- View a programmed shape on screen - which helps program verification.
- Download programmed shapes from the PC to the Gantry.

2. BESTNEST Program.

These are full fledged CAD interface programs, available in three different levels, each adding further capabilities to those listed above.

A. Basic: enables you to

- Read and convert standard DXF files generated by CAD programs.
- Draw and edit shapes graphically on screen.
- Specify parameters like kerf, lead in, lead out, or use defaults.
- Specify different materials to save shapes.

B: Manual Nesting: allows interactive nesting of parts.

C: Auto-nesting: full auto-nesting and multiple torch nesting.



Programmable Gantry System

Features:

