

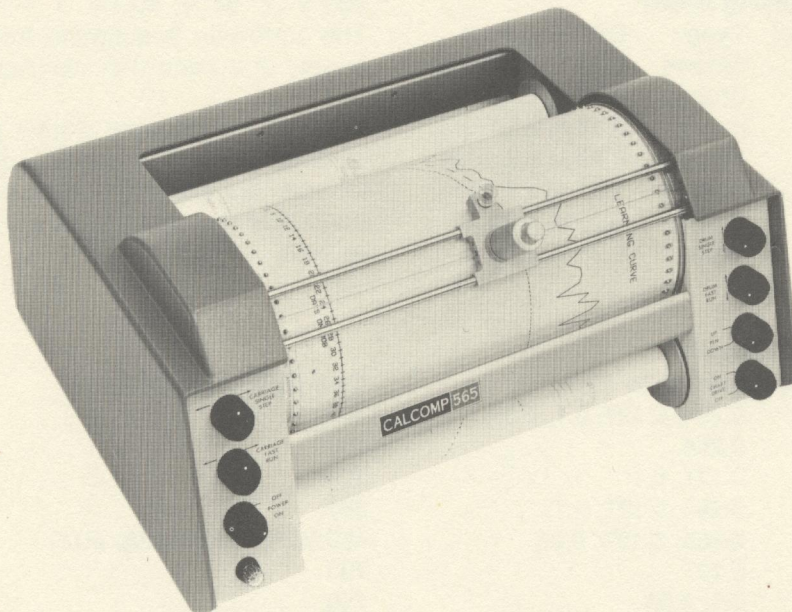
RC 4191 INCREMENTAL PLOTTER CONTROLLER

Incremental digital plotters of the Calcomp Series 500 and 600 type can be controlled either on-line by the RC 4000 computer, using the incremental plotter controller, or by the RC 1600 graphic converter (separate specification).

0.1 mm is a typical step size for these plotters, 300 steps/second a typical speed. The controller, which is connected to the RC 4000 via the low-speed data channel, provides the necessary timing of the drive signals to the plotter.

There are two main types of plotter, the drum type and the flatbed type. The drawing paper for the drum type is supplied from a roll of paper, the full length of which can be used as the X axis. The flatbed type draws on a sheet of paper.

For on-line operation with a time-shared computer, the plotters are equipped with sensors that detect pen movements outside the permissible drawing area.



The controller is placed in an input/output controller cabinet along with other controllers.

Operation

The plotter is operated via the controller by the standard input/output instruction. Each write command initiates the execution of one plotter step, and the computer is engaged

only during the transfer of the plotter instruction. The controller generates an interrupt signal each time it has completed the execution of a plotter instruction.

The status of the plotter can be sensed by an instruction (sense command). There are two status indications: operator intervention and drawing area exceeded.

The plotter has a local/remote switch, which

can be set manually. In remote mode the plotter is program controlled. In local mode the operator can control all pen movements manually by activating buttons on the plotter control panel. Shifts between remote and local mode take place without loss of information.

Data Formats

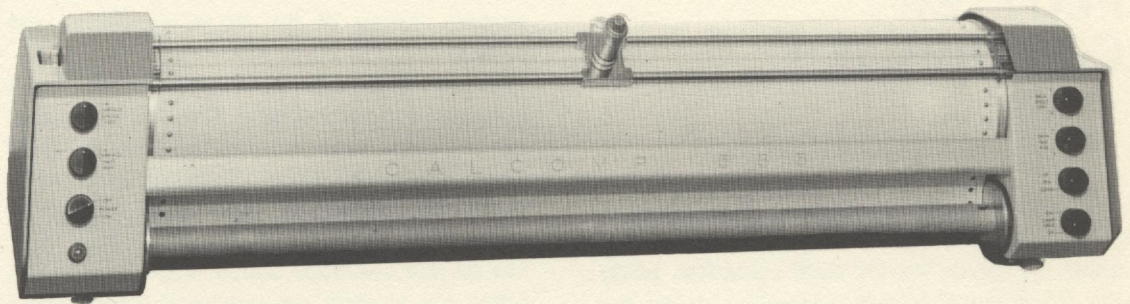
The plotter operates in a conventional XY co-

ordinate system, and the pen can perform steps in the following eight directions:

X, O O, Y -X, O O, -Y
 X, Y -X, Y -X, -Y X, -Y

All curves must be composed by a sequence of steps in these eight directions.

Each plotter instruction contains information about step direction and pen position (up or down).



CHARACTERISTICS

Types and Drawing Areas

Calcomp Model	Type	Drawing Area
502	flatbed	0.79 m x 0.86 m
563	drum	0.75 m x 36 m
565	drum	0.28 m x 36 m
602	flatbed	0.79 m x 0.86 m
618	flatbed	1.37 m x 1.83 m
663	drum	0.75 m x 36 m
665	drum	0.28 m x 36 m

Step Sizes and Speeds

Calcomp Model	Step Size (mm)	Step Speed (steps/sec)
502	0.254, 0.127, 0.1, 0.05	300
563	0.254	200
	0.127, 0.1	300
565	0.254, 0.127, 0.1	300
602	0.254, 0.127, 0.06	450 (900 at half-step size)
618	0.127	200
	0.1, 0.05	450
663	0.254	350 (700 at half-step size)
	0.127, 0.06	450 (900 at half-step size)
665	0.254, 0.127, 0.06	450 (900 at half-step size)

Power

220 V ± 10 %, 50 Hz ± 4 %, max. 1 A. The controller is supplied from the power supply in a controller cabinet.

As most incremental digital plotters can be supplied with Calcomp compatible interface, the RC 4191 Incremental Plotter Controller can control other such plotters as well.