

Technical Data and Instructions

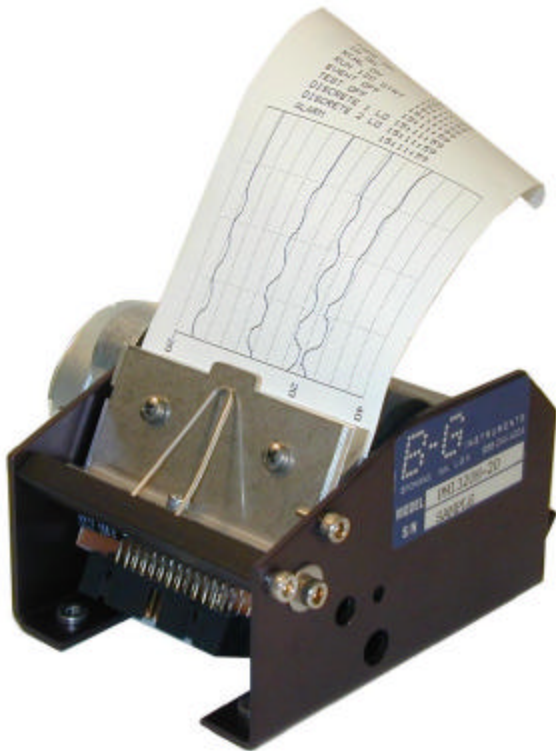
DataPlot Print Mechanism Model PM1320

GENERAL DESCRIPTION

The DataPlot model PM1320 Print Mechanism incorporates a fixed-dot thermal printhead with 320 heat element dots arrayed in a single line across the width of the paper. The mechanism holds a supply roll of thermal paper and causes that paper to move past the printhead in steps of approximately .005 inch. When driven by the DataPlot CB1320 Printer Control Board, the print mechanism steps the paper forward, pausing after each step to heat selected dots. In this manner, a dot matrix representation of alphanumeric and/or graphic data can be printed.

RESOLUTION

The 320 thermal dot elements are uniformly spaced 150 dots per inch, or approximately .0067 inches apart. The total print width is 2.13 inches, centered on the paper. The dot matrix has a pitch, therefore, of .0067" across the width of the paper by .005" along its length.



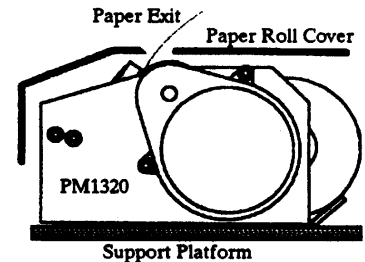
CONTROL BOARD CONNECTION

This print mechanism is designed to operate properly and reliably when driven by the B-G Instruments' DataPlot model CB1320 Control Board or another board specifically approved by B-G Instruments for that purpose. Attempting to operate this print mechanism in any other way may cause permanent damage to its components that would not be covered by warranty. With all system power off, attach the supplied ribbon cable between the 26-pin printhead connector and connector J4 on the control board, being sure to observe correct polarity by aligning the red dots on the connectors with those on the cable cads. Also connect the 8-pin stepper motor cable to connector J 1 on the control board. This connector is keyed to facilitate correct polarity assembly. Refer to the CB1320 data sheet for instructions for applying power and operating the printer.

MOUNTING

The DataPlot model PM1320 print mechanism is designed to be mounted to a horizontal support platform, as shown here, using 6-32 screws.

Mating PEM nuts are set into the print mechanism chassis. (See the drawing on the reverse side of this sheet for mounting dimensions.) Usually a housing cover is provided for appearance and to protect the mechanism.



Such a cover must include a slot, positioned to permit the paper to exit freely. Many cabinet designers also provide a transparent tear-off bar to facilitate tearing the paper a short distance away from the platen. This makes it easy to lift the paper from the platen when printing resumes.

PAPER OUT, PAPER LOADING

A paper sensor in the PM1320 provides signals that are used by the CB1320 Control Board to stop printing when the paper runs out and to "autoload" a new paper roll. To load the printer, be sure the power is on and insert the paper end into the paper feed slot beneath the platen from the rear. Be sure the sensitive side (outside on roll) is away from the platen. When the paper is fully inserted, the platen will run, pulling about 2 inches of paper through.

THERMAL PAPER

We recommend using B-G Instruments' type TP-3 thermal paper in the DataPlot model PM1320 Print Mechanism. This paper produces a permanent black-on-white image that is stable with time and it does not tend to stick to the printhead as do some other brands. Use of waxy-coated papers should be avoided because of their tendency to adhere to the printhead and cause a buildup of material on the head. TP-3 is a 2.6 inch wide, high quality facsimile grade paper that can produce high resolution permanent copy in the PM1320 printer. It is available from B-G Instruments in cartons of 36 rolls, or in larger quantities.

CAUTION --- NON-WARRANTY PRINthead DAMAGE

The DataPlot CB1320 control board applies power to the selected thermal dots for a period of time sufficient to exceed the thermal paper activation temperature, or about 2 milliseconds. If electrical power is applied to these elements for a significantly longer period, or for too high a duty cycle, or in some other improperly controlled manner, irreversible printhead damage may occur. Such damage can be readily detected, as the affected dots will print only lightly, if at all, and is not covered by warranty. For this reason, it is important that the print mechanism be operated only by the DataPlot model CB1320 control board and that the applied power be as specified in the CB1320 Technical Data and Instructions sheet.

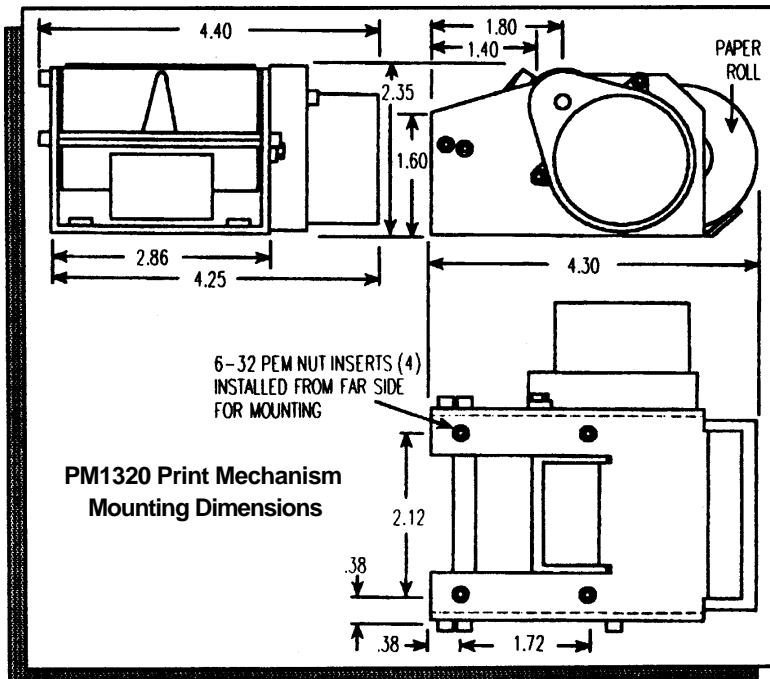
WARRANTY

B-G Instruments will repair or replace, at its option, any DataPlot model PM1320 Print Mechanism that malfunctions because of faulty manufacture within one year after its original date of sale, provided that the mechanism has been used exclusively with a CB1320 control board and B-G Instruments' type TP-3 thermal paper, and:

1. neither the print mechanism nor its control board have been modified in any way not specifically authorized by B-G Instruments, Inc., and
2. electrical power applied to the control board has always been within specifications for that board, and
3. the mechanism shows no evidence of electrical, thermal or mechanical damage, and
4. the mechanism has printed fewer than 100 million dot rows and less than 100,000 feet of paper.

PRINT SPEED

When driven by a CB1320 Control Board, the PM1320 print mechanism can print approximately 150 dot rows per second (somewhat slower for rows containing more than 64 printing dots). At .005" per step, the maximum paper speed is, therefore, about 0.75" per second. Rows of 5x7 characters can be printed at about 5 lines per second, somewhat slower for bold or larger size characters.



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