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A SPECIFICATION OF MCR FACILITIES FOR  
AN AA BEAM STATISTICS SYSTEM

by

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At present the prototype AA beam statistics system runs in a stand alone way on a Caviar micro-computer which is connected to the MCR via the S.O.S. on the General Video display system (Fig. 1).

This specification is aimed at replacing the Caviar in order to integrate the AA beam statistics system into the PS Control Complex. Its mini/micro-computer should be used as a computer peripheral of the AA front end computer and it must include such features as:

- 16 bits
- at least two external interrupts for real-time event synchronization
- serial Camac interface if not an A.C.C.
- floating-point enhancement
- Video controller with alphanumeric and graphics (256 \* 256 addressable points) capability.

Languages

- Nodal
- One high level compiled language compatible with Nodal.

Packages

- Graphics package with at least the following routines:
  - write absolute point
  - load absolute point
  - write absolute vector (full/dotted/dashed)

- write relative point
  - lead relative point
  - write relative vector (full/dotted/dashed)
  - write rectangle
  - write circle
  - erase graphics only
  - erase alphanumerics only.
- Special package dealing with one dimension array (digital filtering)
    - subtract two arrays element by element
    - multiply two arrays element by element
    - compute total of an array.
  - Standard Camac package.

The present beam statistic program is written in Bamly Interpreter (similar to Nord Basic) and needs 5632 bytes (44 blocks of 128 bytes) to be stored on floppy disk. It runs in real-time in a cycle of 2.4 s including the measurement and the display.

