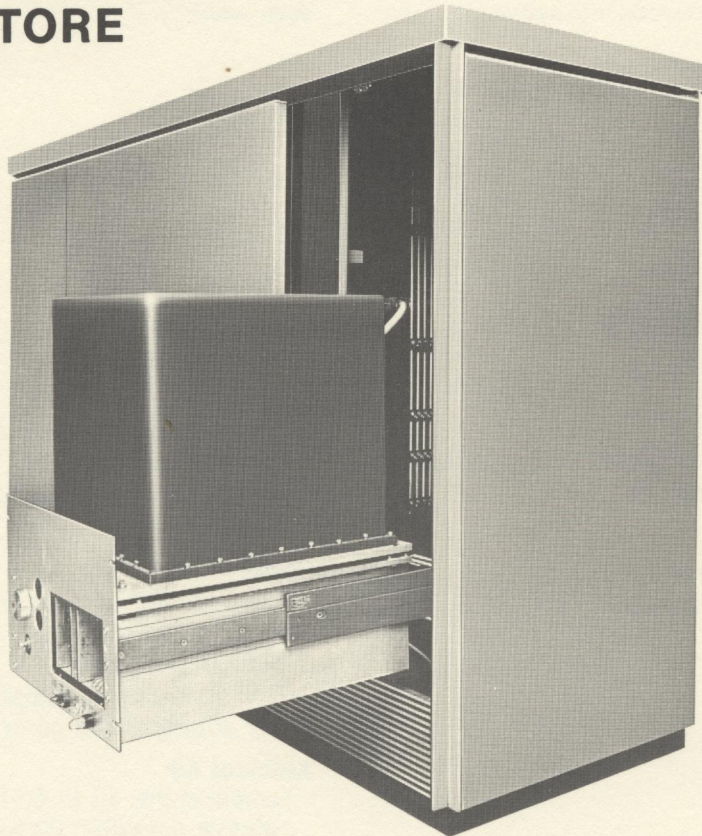


RC 4320 MAGNETIC DRUM STORE



The magnetic drum store is a flying-head device with a capacity of 64 K words of 24 bits. The capacity can be increased in modules of 64 K to 512 K words by adding RC 4321 head bar modules.

Data is transferred via the high-speed data channel directly to or from the internal store of the RC 4000 by means of cycle stealing. The transfer rate is 50,000 words/second. The mean access time is 10.5 milliseconds.

The drum store comprises two units interconnected by means of a multicable. The one unit contains the hermetically sealed drum and the read/write selection electronics. This unit can be mounted either in the input/output

controller cabinet or in a 19-inch rack. The other unit, which contains the drum store controller, must be placed in the controller cabinet.

Operation

The drum store is operated by the standard input/output instruction, which initiates data block transfers. The controller executes a transfer operation without engaging the computer and generates an interrupt signal when the operation is completed. During the transfer operation, data is transferred via the high-speed data channel to or from the internal store of the RC 4000 on a cycle-stealing basis.

Initiation of a block transfer requires instructions to specify block size, drum store location, internal store location, and input/output operation. After a block transfer, a status word can be sensed. The status word indicates whether a parity or synchronization error has occurred.

Data Format

The drum store is divided into segments, each

containing 256 words and 1 parity word. Each word has 24 bits. A block transfer includes one or more consecutive segments, the number of which is specified in an instruction.

The parity word includes 24 individual parity bits. Parity bit number q is the parity bit for bit number q in each of the 256 words in the segment. This means of parity checking is far more effective than simple parity checking of each word.

CHARACTERISTICS

Capacity

65,536 words
expandable in modules of 65,536 words
up to 524,288 words

Transfer Rate

50,000 words/sec
150,000 8-bit char/sec

Word Size

24 bits

Segment Size

256 words

Block Size

variable number of segments

Mean Access Time

10.5 ms

Transfer Time

5.2 ms/segment

**Mean Time for Access and Transfer
of n Consecutive Segments**

$(10.5 + n \times 5.2)$ ms

Reliability

Drum bearing life exceeds 100,000
hours of operation.

Mean time between failures is 15,000
hours.

Power

220 V \pm 10 %, 50 Hz \pm 4 %

max. line current: 5 A

operating current: 2 A

The controller is supplied from the power supply in the controller cabinet.

Ambient Air

temperature: 10 to 40°C

relative humidity: 30 to 70 %

Cooling Air (Drum Cabinet)

270 m³/hour from ambient

120 kcal/hour

Size (Drum Cabinet for Rack Mounting)

width: 483 cm (19 inches)

depth: 580 cm

height: 712 cm

The controller is mounted in the controller cabinet.