SPECIFICATION
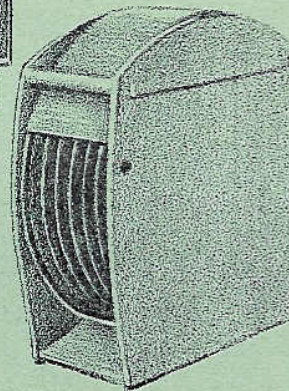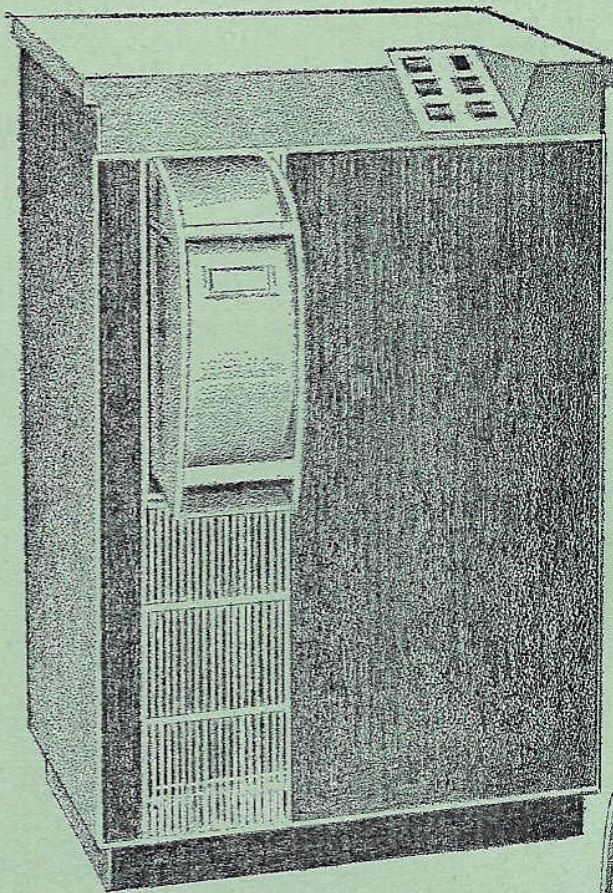
DISK FILE

The Disk File is a high-speed, magnetic disk storage device supplementing the immediate access store in the Central Processor. By utilizing interchangeable Disk Kit units, the random access Disk File furnishes unlimited secondary storage capacity and fast access time, which along with balanced data packing provide maximum effectiveness in combination with the GIER Computer, to which a maximum of four Disk Files can be connected.

The removable Disk Kit, a modular package of six magnetic disks, is the basic unit of the Disk File, enabling direct, complete read/write interchangeability with the File. The efficient, self-encased Kits, which can be quickly inserted or removed for storing by the operator, protect the disks when not in use in the File and obviate maintenance adjustments and changes in control settings.

The File itself, housed in a compact, free-standing unit to ease operation and maintenance, contains the Head Array, control circuitry, and the mechanical device that handles the Kit. When a Kit is inserted, the disks are automatically exposed to the Array; at the same time, the shaft for holding and revolving the disks is positioned.

Organization of data storage in the Disk File is in terms of blocks, surfaces, disks, and disk kit units: a block contains 40 42-bits words; there are 800 blocks per surface, 1600 blocks per disk, and 9600 blocks per unit. The data on the recording surface is accessed by a single read/write head through positioner motion.

CHARACTERISTICS

DISK KIT UNIT

Size: width 14.6 cm, depth 40.0 cm, height 41.1 cm

Weight: 5.5 kg

Number of Disks: 6

Number of Recording Surfaces: 12

DISK FILE

Size: width 68.3 cm, depth 80.6 cm, height 105.0 cm (less door panels)

Weight: 227 kg

Number of Movable Read/Write Heads
- 1 per disk surface
- 2 per disk
- 12 per complete unit

Magnetic Disk Store Capacity: 384,000 42-bit words, random access

block:		40 words or	1,680 bits
surface:	800 blocks or	32,000 words or	1,344,000 bits
disk:	1600 blocks or	64,000 words or	2,688,000 bits
disk kit unit:	9600 blocks or	384,000 words or	16,128,000 bits

Total Number of Disk Files: 4

Transfer Time: 3 ms/block

Positioning Time: 100 ms

Rotational Speed: 2400 rpm (nominal) or 25 ms/rev

Rotational Delay: 12.5 ms (average)

Power: 50 Hz, 3 x 380 V
- maximum power: 860 kcal/h (1000 W)
- maximum line current: 10 A
- fuses in mains connection: 10 A

Environment
- cooling air: 200 m³/h from ambient
- air temperature: 18–25° C
- relative humidity: 40–80 %