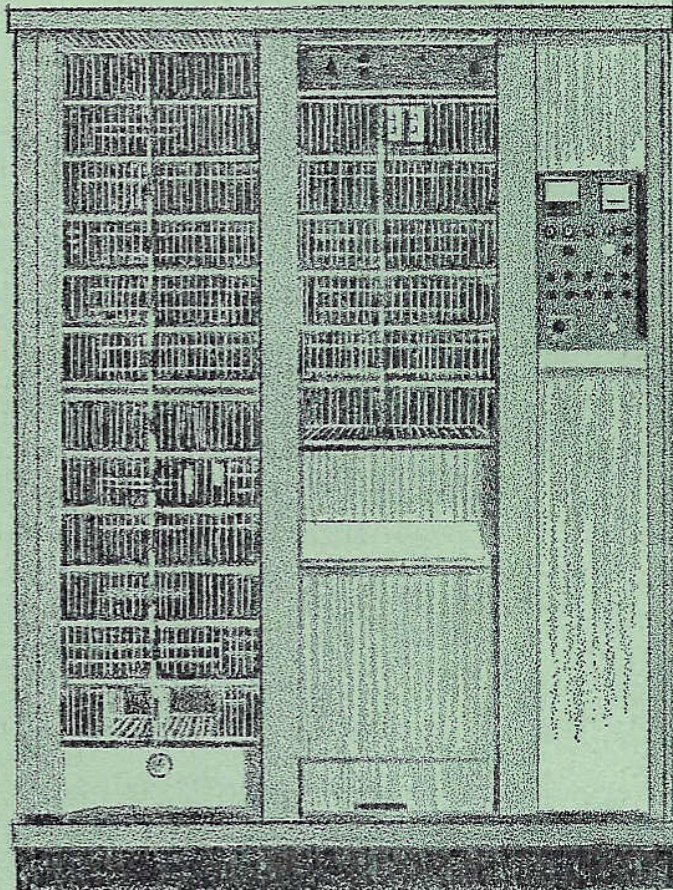


SPECIFICATION

GIER
ELECTRONICS



HARDWARE

GIER COMPUTER

Central Processor

The GIER Computer is a compact, general purpose digital computer equipped with a highly effective ALGOL 60 compiler (see Specification) and a flexible operating system. The GIER Computer operates in the binary mode with a core store cycle time of $6.6 \mu\text{s}$, 60 single-address instructions, and built-in floating-point arithmetic. Instruction execution times range from $29 \mu\text{s}$ to $267 \mu\text{s}$. Word length is 42 bits, two of which are used as flag bits, each word being equivalent to 7 alphanumerical characters or 12 digits.

The Central Processor consists mainly of a number of control registers and an immediate access core store of 1024 words. The cabinet of the Central Processor houses storage devices, microprogramming circuitry, power supply, and the like.

Secondary Storage

The Drum Store, a magnetic drum of 320 40-word tracks or a total of 12,800 words, supplements the 1024-word immediate access store as a secondary random access store. Used in conjunction with the GIER Computer, the Drum Store provides storage capacity of almost 14,000 words.

Drum transfers, i.e. the copying of data from the immediate access store to the Drum Store or vice versa, take place simultaneously with other operations at a rate of 20 ms/track. Drum storage capacity is extendible by two drums to give a maximum capacity of 38,400 words.



Normally the single drum is housed in the Central Processor cabinet, but if two or three drums are employed, all the drums are housed in a special cabinet called the Three-Drum Unit.

Alternatively, the Disk File (see Specification), a random access magnetic disk store with a capacity of 384,000 words, can be used with the GIER Computer as an auxiliary storage device to replace the Drum Store. Up to 4 Disk Files can be connected.

In addition, the Buffer Store (see Specification), an optional, high-speed, secondary store with a 4096-word core store, is available to supplement both immediate and random access stores and to accommodate magnetic tape transfers.

Data Channel

The general purpose, two-way, 42-bit Data Channel facilitates the connection of auxiliary devices, such as the Buffer Store, the Real-Time Clock, Hybrid Computer Linkage Equipment, and Magnetic Tape Stations (via Buffer Store). Data Channel transfers by blocks or by characters to and from the immediate access store take place at a rate of 15 μ s/word (42 bits in parallel).

CHARACTERISTICS

CENTRAL PROCESSOR

Size: width 144.6 cm, depth 54.2 cm, height 192.7 cm

Weight: 436 kg

Core Store Cycle Time: 6.6 μ s

Core Store Capacity: 1024 42-bit words, immediate access

Operation Times

addition:	22 μ s fixed-point	66 μ s floating-point
multiplication:	155 μ s » »	140 μ s » »
division:	240 μ s » »	190 μ s » »
other:	2 μ s	to 27 μ s
+ 27 μ s for normal address modification		

Power: 50 Hz; 3 x 380, 3 x 220 V
maximum power: 1400 kcal/h (1625 W)
maximum line current: 4 A at 3 x 380 V
fuses in mains connection: 6 A

Environment

cooling air: 600 m³/h from plenum
air temperature: 18–23° C
relative humidity: 40–70 %

THREE-DRUM UNIT

Size: width 162.8 cm, depth 41.0 cm, height 117.2 cm

Weight: 350 kg

Magnetic Drum Store Capacity: 12,800 42-bit words, random access
number of tracks: 320 of 40 words each
total number of drums: 3
maximum capacity: 3 x 12,800 = 38,400 words

Transfer Time: 20 ms/track

Power: 50 Hz, 3 x 380 V
maximum power: 557 kcal/h (648 W)
maximum line current: 2.5 A
fuses in mains connection: 6 A

Environment

cooling air: 250 m³/h from plenum, 215 m³/h from ambient
air temperature: 20–30° C
relative humidity: 30–75 %

A/S REGNECENTRALEN

FALKONERALLE 1
COPENHAGEN F. · DENMARK

A/S SCANIPS

SORGENFRIGATE 11
OSLO · NORWAY

ING. UGO DE LORENZO & C.

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