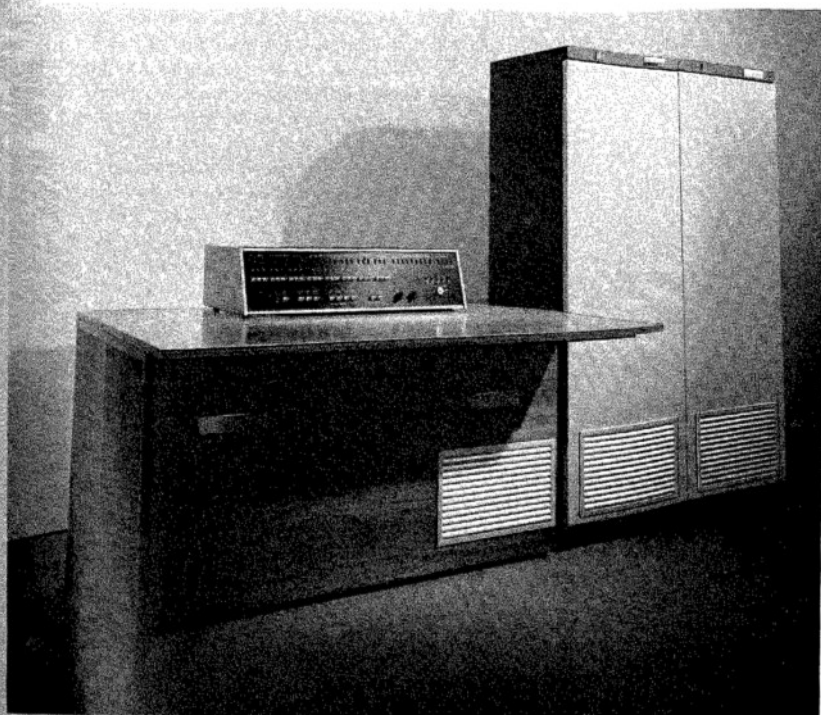


Marconi 'Myriad II' Digital Computer Type L 4001



Y1127

Myriad II extends the Myriad range of computers to provide a high-performance low-cost machine for real-time applications. It employs the same order code as the Myriad I so that software compatibility exists between the two machines, but many of the features which are built in to the Myriad I are now available as options on Myriad II. This arrangement provides the flexibility to make up a machine to meet particular requirements.

FEATURES

High reliability with silicon micrologic modules and diode transistor logic.

High-speed operation—
add, less than 3.5 μ s.
multiply, less than 33.9 μ s.

Expandable storage to 32,768 words, directly addressable.

True multi-level priority interrupts, highway connection system to external peripherals, multiply and divide orders, and store protection available as options.

Sophisticated programming aids User Code,

Algol Fortran and Coral compilers. Basic software generated for Myriad I available for use on this machine.

Equipment

Myriad II is a parallel binary fixed-point machine with single address operation, a word length of 24 bits with facilities for double-length working built-in and extensive input/output facilities available in the form of optional modules. Most single-length instructions take less than 3.5 μ s with modifiers available on most orders.

The basic machine consists of an arithmetic unit, a series of registers and counters, and a teletypewriter with paper tape attachments as the standard device for program input and output. Two store unit modules, one of 4096 words, the other of 16,384 words, provide directly-addressable storage capacities of 4096, 8192, 16,384, 20,480 or 32,768 words to be associated with the central processor. The store cycle time is 1.5 μ s in all cases. Store protection facilities are available as options.

Where a small system or sub-system employing only a few peripheral devices is

required, the internal machine highways can be extended and the input/output control circuits for the peripheral devices accommodated within the central processor cabinet. For larger systems, 12 bits or 24 bits of data can be extended along external common input and output highways with up to 4000 peripheral addresses available.

Interrupt input/output options are available which provide automatic priority selection of interrupting devices at four or eight levels. The interrupt system allows data transfers to be made to or from the computer in 6.5 μ s, including access.

The multiply and divide optional orders deal with both positive and negative 24 bit numbers.

The engineering form, based on the sub-board/main board/unit hierarchy successfully proved in Myriad I, is used in Myriad II. The basic circuits of the computer are constructed from integrated circuit diode transistor logic similar to the Myriad I designs—resulting in an expected mean time between failures of not less than 3000 hours.

Peripheral Equipment

Conventional peripherals include:

Paper tape reader	} Medium Speed Paper Tape Module
150 char/sec	
Paper tape punch	}
120 char/sec	
Paper tape reader	
1000 char/sec	
Paper tape punch	
150 char/sec	
Input/Output Typewriter	10/15 char/sec.

Alpha-numeric Keyboard

Industry-compatible magnetic tape systems
Random access magnetic disc storage with interchangeable disc units.

Bulk ferrite storage.

Interface for telegraph channels and teleprinters. Graph plotter. Curve followers. High-speed printer.

Special application units include:

Tabular c.r.t display systems.
Graphical c.r.t display systems.
CRT display systems for radar.
Wide range of specialized link equipments for radar.
High-speed data links.
High-speed digital scanner.
Precision analogue scanner.
Synoptic chart plotter.

DATA SUMMARY

Type: Parallel binary fixed-point single address.

Word length: 24 bits.

Representation: Binary.

Number range: $-1 < x < +1$

Storage:

Coincident-current ferrite core stores.

(1) 4096 word block

(2) 16,384 word block

Providing 4096, 8192, 16,384, 20,480 and 32,768 word storage capacity.

Cycle time 1.5 μ s. Access time 0.5 μ s.

Store protection facilities available as options.

Input/Output: Common input and output highways; 4000 peripheral addresses available.

Interrupt: Up to 8 levels of external interrupt with priority capable of accommodating multiple devices.

Data transfers in 6.5 μ s.

Order speeds: Add, fetch, etc., less than 3.5 μ s. Multiply, less than 33.9 μ s.

Function code: Includes fetch, add, subtract, store, exchange, collate, not equivalent, complement, 7 jump actions, 6 shift actions, 4 link actions. Spare codes available.

Instruction Format:

Store address	15 bits.
Function code	6 bits.
Modifier digits	2 bits.
Stop digit	1 bit.

Power Supplies:

230 V \pm 10% - 20%

110 V \pm 10% - 20% optional.

Single phase 45-65 Hz.

1500-2500 W.

Dimensions:

Computer

Height	5 ft 5½ in.	(165 cm)
Width	3 ft 10 in.	(115 cm)
Depth	15½ in.	(38 cm)

Control Desk

Height	2 ft 6 in.	(76 cm)
Width	5 ft 0 in.	(152 cm)
Depth	2 ft 6 in.	(76 cm)

Environment

Forced-air cooling: 10°C to 45°C, relative humidity: 90%.

Software

User Code compiler.

Algol compiler.

Fortran compiler with segmentation facilities.

Coral compiler.

Sub-routine library.

Test routines.

THE MARCONI COMPANY LIMITED
Computer Division

Marconi House, Chelmsford, Essex
Telephone: Chelmsford 53221. Telex: 99201
Telegrams: Expanse Chelmsford Telex