CENTRAL PROCESSOR

1901 series processors. Multiple-programming.
Modular construction.
1902 series processors — as 1901, but incorporating high-speed floating point unit.

Storage capacity
8,192, 16,384 or 32,768 words. Further fast access store may be added later if required.

Word length
24 binary digits plus parity bit. Can represent four alpha-numeric characters.

Cycle time
2 micro-seconds.

Instruction form
One word length. Repertoire of 100 instructions. Most instructions are two address, store location and accumulator. Single characters can be addressed.

Accumulators
First eight store locations of each program. Three of these also used for indexing.

Specimen timings
Basic 1901 processor:
A \pm B \rightarrow A \quad 7 \text{ micro-seconds}
A \times B \rightarrow A \quad 40 \text{ micro-seconds}
A \div B \rightarrow A \quad 43 \text{ micro-seconds}

1902 processor-floating point
Argument \ 37 \text{ bits plus sign, exponent 8 bits plus sign. Time in micro-seconds. Add/subtract 12, Multiply 26, Divide 47, Load/store 7.}
PERIPHERAL EQUIPMENT

Maximum operating speeds:

**Cards**
- 80-column: In — 600, Out — 100 cards a minute
- 5, 7 or 8 track: In — 1,000 or 300, Out — 110 rows a second

**Printer**
- 120, or 160 characters per line.
- 1,200 lines a minute maximum.
- Character set, 64 including space.

**Interrogating typewriter**
- 10 characters a second.

**Document processor**
- MICR — 1,200 documents a minute.

**Magnetic tape**
- Transfer rate 24,000 or 66,000 characters a second, selectable by operator. Tape and reel compatible with variety of systems. Up to three tape channels in 1900 system.

**Recording**
- 6 tracks plus parity. Read after write parity check and longitudinal block check.

**Magnetic discs**
- Units storing 33 or 66 million characters. Multiple units in system.
- Motion time — 190 milli-seconds average
- Latency — 30 milli-seconds average

- Access — 220 milli-seconds average
- Transfer rate — 60,000 characters a second inner zones
- 100,000 characters a second outer zones

Dual access model can be specified for concurrent transfer and track selection.

Up to 24 magnetic tape units and 19 other peripheral devices in system. Facilities for analogue to digital converters, communications links and duplex working, 1900 to 1900.

I.C.T 1900 SOFTWARE

- PLAN assembly language
- FORTRAN (Fortran II)
- MAC (Manchester Autocode, basic facilities)
- Input/Output package
- Magnetic Tape Housekeeping package
- General Sort Program
- Library routines, including PAYE, mathematical functions, etc. and in preparation:
- RPG, a comprehensive intermediate commercial language
- EMA (Extended Manchester Autocode)
- I.C.T Rapidwrite and COBOL
- ALGOL
- Disc Store routines
- Library additions: matrix scheme
- multiple regression
- linear programming
- transportation

This specification is subject to modification.
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and offices in the following places throughout the United Kingdom.
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Egypt, Finland, France, Ghana, Holland,
Hong Kong, India, Iran, Iraq, Ireland,
Italy, Japan, Jordan, Kuwait, Lebanon,
Libya, Malaysia, Malta, Mauritius, Mexico,
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