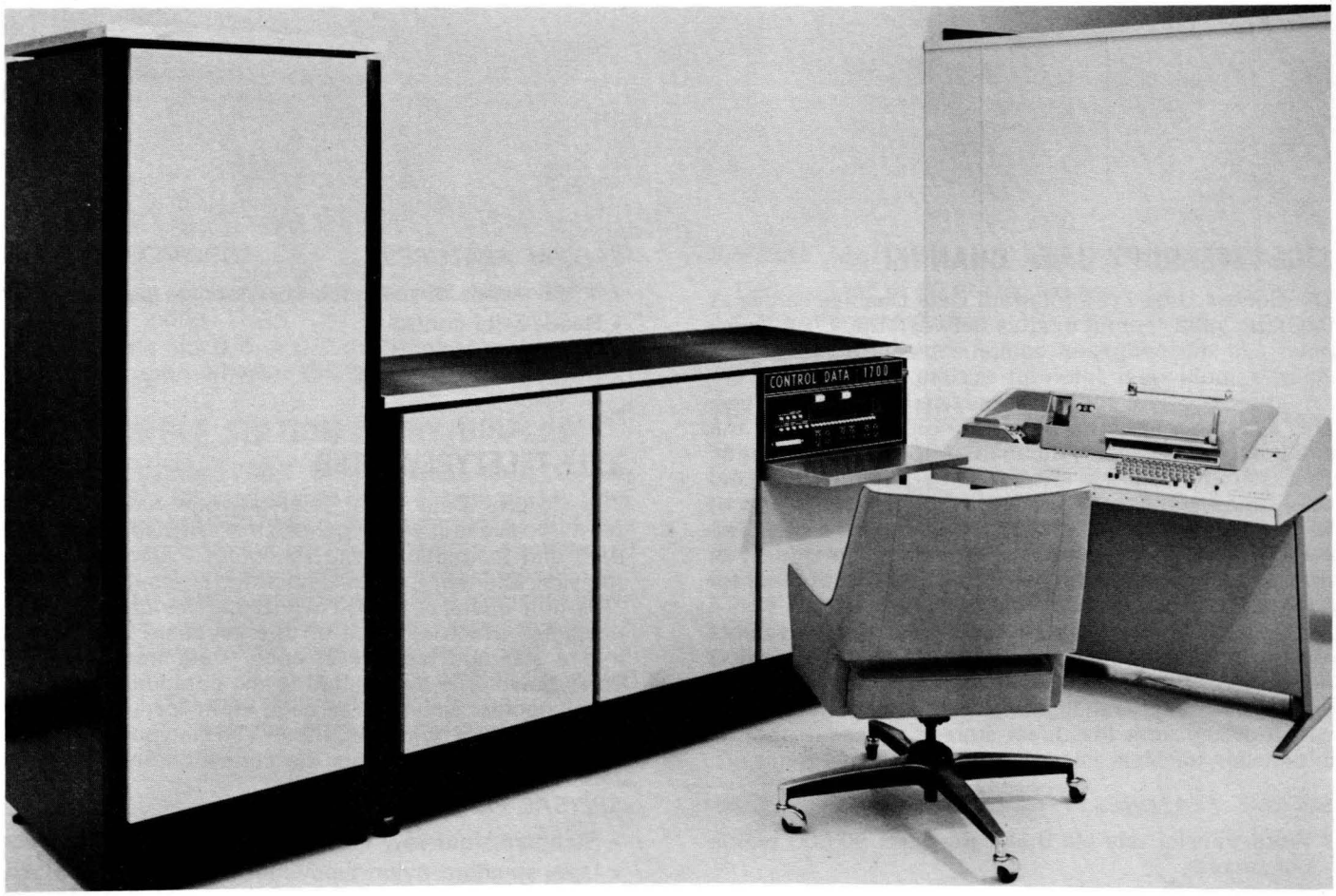
CONTROL DATA® 1700 COMPUTER SYSTEM

CONTROL DATA
CORPORATION



The Control Data® 1700 Computer System is a compact, on-line, control system with multi-purpose capabilities in data-handling applications. These applications range from control of small industrial processes to the consolidation and re-routing of messages for the largest data-collection/communication systems. Building-block modularity, expansion capabilities,and standard software packages make the 1700 Computer System a complete system which eliminates the time and expense of custom tailoring. This system can handle real-time and non real-time programs simultaneously, and also features program protection for programs operating on a time-shared basis

SPECIAL FEATURES

- Eighteen-bit storage word (16 data or instruction bits, Program Protect bit, and Parity bit)
- Basic Storage: 4096 words (expandable to 32,768 words)
- Cycle Time: 1.1 microsecond storage
- Program Protect system
- Two indexable registers
- Multi-level indirect addressing
- Sixteen-level priority interrupt system, internal and external interrupts
- Buffered and non-buffered input/output
- Standard non-buffered I/O bit rate: 1.4 million bits per second
- One's complement, signed arithmetic
- Fixed-point Add, Subtract, Multiply, and Divide
- Control Data's 6000-type, solid-state circuitry
- Logic is air cooled
- Console switches and indicators.

1704 COMPUTER

The Control Data 1704 Computer is designed for high computation and input/output speed. This unit performs the switching and logical operations specified by the stored program instructions. It also generates the commands necessary to execute I/O operations, and provides the logic for generating the internal and external interrupts which are essential for real-time, on-line communications systems.

SPECIAL FEATURES

- Random access memory
- Magnetic core storage of 4,096 words (16-bit words), expansion capability to 32,768 words
- Interface for teletypewriter keyboard input/output
- Internal and external interrupts
- Manual interrupt on teletypewriter console
- Program Protect
- Parity checking
- Cycle Time: 1.1 microsecond
- Arithmetic, logical, and masking operations
- Inter-register transfers

1705 INTERRUPT DATA CHANNEL

The Control Data 1705 Interrupt Data Channel serves as the basic input/output module between the 1704 Computer and the peripheral equipment controllers. It provides a multi-level interrupt system which gives the stored program the ability to establish interrupt priorities. This allows an interrupt of high priority to interrupt the computer while processing an interrupt of lower priority. The return path to the lower-priority interrupt is clearly established and saved. The interrupt system consists of 16 lines connected to a Mask Register of 16 bits. The contents of the Mask Register determines the priority of the particular state. Two interrupt levels are reserved for internal programs in the 1704 Computer.

The 1705 Interrupt Data Channel also provides direct access to magnetic core storage and to the A and Q Registers of the 1704 Computer. In addition, the 1705 provides a Peripheral Equipment Information Channel, which differs from the direct storage access in that all information transfers are via the AQ Channel (A Register).

SPECIAL FEATURES

- Word-transfer rate via the A Register: 90,000 words per second
- Total of 16 interrupt levels with 1704 Computer
- Interface for direct storage access to memory
- Peripheral equipment information channel connections

1706 BUFFER DATA CHANNEL

The Control Data 1706 Buffer Data Channel provides a 16-bit, bi-directional, buffered input/output path between a CONTROL DATA® 1704 Computer, via a 1705 Interrupt Data Channel, and up to eight peripheral controllers. The 1706 receives commands from the 1705 Data Channel and transfers blocks of data directly in and out of storage. A maximum of either three 1706 Buffer Data Channels or three 1716 Coupling Data Channels can be attached to one 1704 Computer.

SPECIAL FEATURES

- Bi-directional, 16-bit data path
- Maximum word transfer; 900 kc.
- Buffered data transfer, direct access to computer memory

1708 STORAGE INCREMENT

The Control Data 1708 Storage Increment provides an additional 4,096 words of magnetic core storage to the 1704 Computer. These units may be added to provide a total capacity of 32,768 words. The word size and speed of this module are equal to those of the 1704 Computer; 16 bits of information, plus one storage-protect bit and one parity-check bit, operating at a 1.1 microsecond cycle time.

SPECIAL FEATURES

- 4,096 words of magnetic core storage per increment
- Read/write control
- Program protect
- Parity checking

1711 TELETYPEWRITER

The Control Data 1711 Teletypewriter functions as a send/receive unit which permits manual insertion of both data and instructions into computer memory, and the retrieval and printout of data from computer memory. This unit operates at 100 words-per-minute, and each character which is typed on the keyboard is translated into a standard eight-level code. Data from the 1711 Teletypewriter is transmitted to the computer character-by-character. Similarly, as each eight-level code is received from the computer, the 1711 Teletypewriter translates this code and prints the corresponding character.

SPECIAL FEATURES

- Standard, four-row keyboard enables easy operation
- Uses standard nylon typewriter ribbon
- Operating speed: 10 Characters per second

1716 COUPLING DATA CHANNEL

The Control Data 1716 Coupling Data Channel provides a bi-directional, 16-bit data path between two 1704 Computers, or a common set of peripheral devices for both computers. A 1705 Interrupt Data Channel must be provided on each computer for the interface. The 1716 Coupling Data Channel also provides a buffered data channel, to which up to eight peripheral controllers may be attached.

SPECIAL FEATURES

- Bi-directional 16-bit data path
- Maximum word transfer: 900 kc.
- Buffered data transfer

1732 MAGNETIC TAPE CONTROLLER

The Control Data 1732 Magnetic Tape Controller synchronizes data transfer between a 1700 Computer System and up to eight 608 or 609 Tape Transports. The 1732 Magnetic Tape Controller may be attached directly to the 1704 Computer AQ Channel, via a 1705 Interrupt Data Channel, a 1706 Buffered Data Channel, or a 1716 Coupling Data Channel. Tape transports associated with the 1732 Magnetic Tape Controller are the 7-track 608 and the 9-track 609. These may be intermixed on the system.

SPECIAL FEATURES

- Operates in either Character mode or Assembly/Disassembly mode
- Sends data bits 0-5 or 0-7 to the tape transport (depending upon whether the tape unit is 7 or 9 track)

1746-1 SINGLE STATION ENTRY/DISPLAY

The Control Data 1746-1 Single Station Entry/Display projects a 6" x 8" page of data on a 14" cathode ray tube. This page contains 20 lines of 50 characters each. These characters include the alphabet, Arabic numbers (0 through 9), punctuation marks, and commonly used symbols. The character set is USASCII compatible. An optional unit, the 10033 Format, provides a page which contains 13 lines of 80 characters each. The 1746-1 Single Station Entry/Display includes a controller which contains a 1,000-character buffer and a character generator. This unit operates from one standard 1706 Buffered Data Channel.

SPECIAL FEATURES

- Twenty lines of 50 characters each
- 1,000-character buffer
- Character generator

10128 DUAL MODE OPTION

The Control Data 10128 Dual Mode Option is available for use with dual 1700 or 3000 Series Computers. This device permits two computers, via two 1748 or 3316 Multiplex Controllers, to service the same communications network. This enables both computers to store identical data simultaneously, and prevents loss of data if one computer of one multiplexer controller fails. The 10128 Dual Mode Option assumes the multiplex controller's tasks of addressing and selecting communications lines in the network, and ensures that all input data is received simultaneously by both computers.

CONTROL DATA
CORPORATION

CORPORATE HEADQUARTERS, 8100 34th AVE. SO., MINNEAPOLIS, MINN. 55440 / SALES OFFICES AND SERVICE CENTERS IN MAJOR CITIES THROUGHOUT THE WORLD