

PHILCO 4000 COMPUTER SERIES**DESCRIPTION**

The Philco 4000 is a family of solid-state, stored-program computer systems which process variable-length data on a character basis. These high-speed data processing systems perform input format functions, verification, file search, card-to-tape and tape-to-printer conversions, and editing of output for printing.

CENTRAL PROCESSORS

Two Philco 4000 Central Processors may be included in any Philco 4000 System, each with magnetic core memories from 8192 to 32,768 characters. An Input-Output Switch permits sharing of up to eight different types of input-output (I/O) devices.

OPTIONS AVAILABLE

The Philco 4000 is available with optional Binary-Decimal Conversion and Binary Multiplication and Division. If preferred, the Philco 4000 is available with an optional Decimal Add, Subtract, Multiply, and Divide unit.

LARGE INSTRUCTION REPERTOIRE

The Philco 4000 performs a wide variety of instructions for complete flexibility. These operations include:

Program Control Instructions

Transfer of Control
Load and Save Registers
Halt

Data Handling and Testing Operations

Moves, Shifts, Translations between Philco and Hollerith Codes, Decimal and Binary Conversions, Binary and Octal Conversions, and Comparisons

Arithmetic and Logical Operations

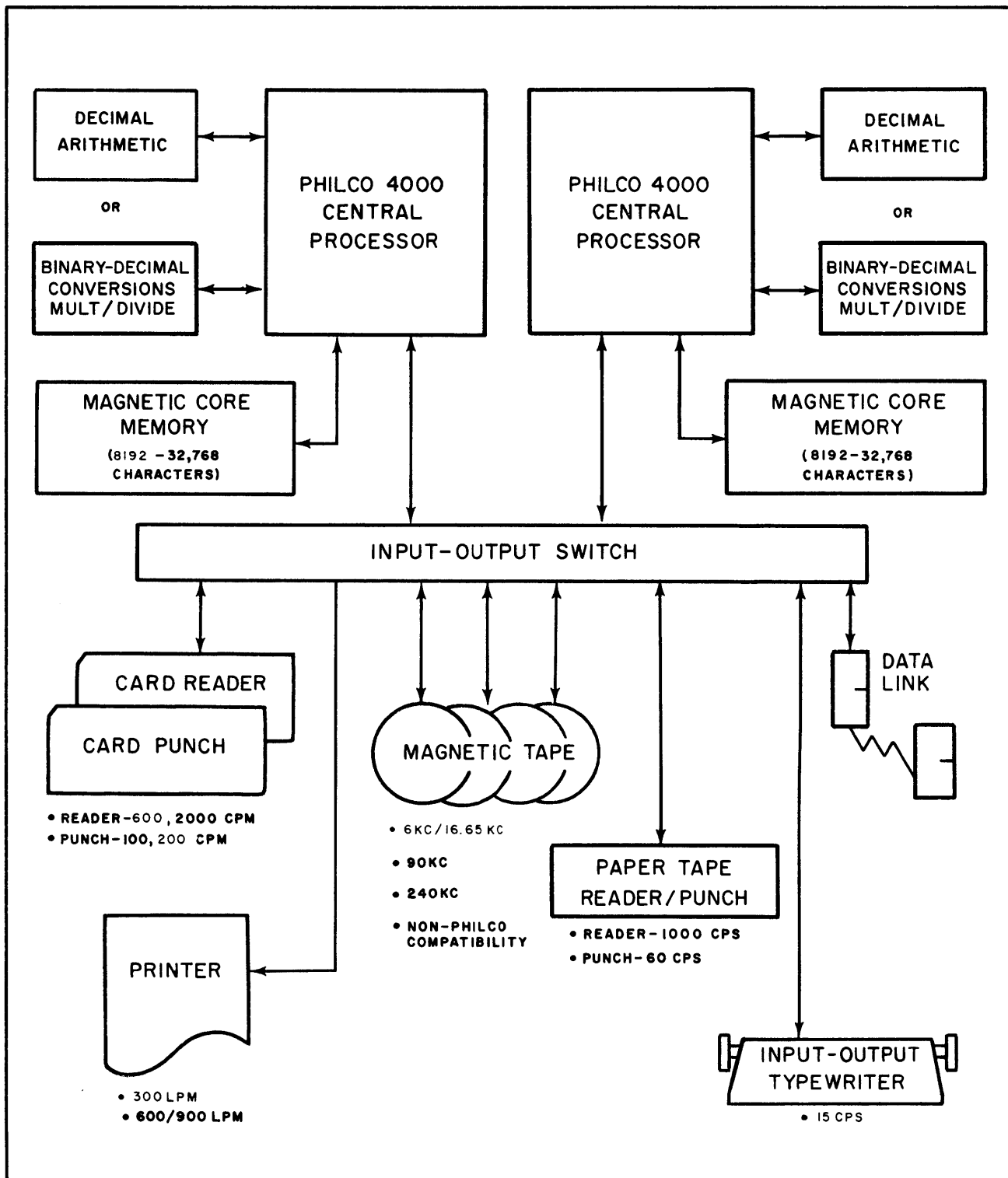
Binary Add, Subtract, Multiply, Divide, Decimal Add, Subtract, Multiply, Divide, Inclusive OR, Exclusive OR, Extract, Incrementing, and Decrementing

Input-Output Operations

Connect and Disconnect Orders
Card Reader Instructions
Card Punch Instructions
Printer Instructions
Magnetic Tape Instructions
Other I/O Equipment Instructions

Each instruction is four characters in length each for ease of programming, program modification and debugging. On a Philco 4000 with a 8192 character memory two values the equivalent of 6 decimal digits may be added in binary in less than 64 microseconds or added in decimal in less than 90 microseconds. These times include all access for the instruction, operands, and storage of the result.

PHILCO 4000 SYSTEM CONFIGURATION



A typical Philco 4000 System is shown in red on the above diagram.

INPUT-OUTPUT SWITCHES

One or two Central Processors may be connected to an Input-Output Switch containing either four or eight I/O channels. Central Processors share I/O devices providing simultaneous processing of two different programs using different I/O devices. Input-Output Switches are available in 1x4, 1x8, 2x4, and 2x8 configurations, providing data flow to one or two Central Processors and four or eight input-output channels.

MAGNETIC CORE STORAGE

Each Philco 4000 Central Processor is equipped with its own Magnetic Core Memory units available with either 8192, 16,384, or 32,768 characters. Each character consists of 6 bits plus a parity bit. Memories of 8192 characters or larger provide an effective read/write cycle time of less than 3 microseconds.

SYSTEM CONFIGURATION

The Philco 4000 Computer Systems consist of one or two Central Processors with a variety of input-output (I/O) devices connected through its Input-Output Switch. These switches are available with either four or eight input-output channels - each containing controls for a specific type of I/O device.

Card Readers and Punches

A Card Reader and Card Punch may be connected to a Philco 4000. Card Readers are available which read cards at 600 or 2000 cards per minute in either Hollerith or binary codes. All 80 columns are compared by a dual read station for accuracy.

Card Punches are available which operate at 100 or 200 cards per minute in

either Hollerith or binary modes. A read after punch check is provided for punching accuracy.

Printers

A 300 or 600/900 line per minute Printer may be connected to the Philco 4000. Both printers print all 63 Philco characters, 120 characters per line on continuous single or multi-part forms from 4 to 20 inches in width for the 300 LPM Printer and from 4 to 19 inches in width for the 600/900 LPM Printer.

Paper Tape Reader/Punches

A High-Speed Paper Tape System may be connected to a channel of the Philco 4000. The Reader reads paper tape punched in 5-, 6-, 7-, or 8-level mode at 1000 characters per second photo-electrically. Punching may be performed in either 5- or 7-level mode at 60 characters per second. Reader reels accommodate up to 84,000 characters (700 feet) and punch reels hold up to 120,000 characters (1000 feet).

Magnetic Tape Units

Several types of Magnetic Tape Units are available for use with the Philco 4000. These include tapes with transfer rates of 16,650 or 6,000 characters per second, standard Philco Magnetic Tapes with transfer rates of 90,000 characters per second and Philco High-Performance Tapes with transfer rates of 240,000 characters per second. Each reel can hold up to 44 million alphanumeric characters. Up to four 16,650 or 90,000 character per second tape units can be connected to the Philco 4000 with one set of controls. Magnetic Tape Units are also available to read or write tapes prepared in other than Philco format.

Input-Output Typewriters

An Input-Output Typewriter may be connected to a channel of the Philco 4000. These typewriters operate at up to 15 characters per second and provide a communications link between operating personnel and the Philco 4000 Central Processor.

Data Links

The Philco 4000 can have a Data Link System connected to one of its input-output channels to provide high-speed transmission of digital information between two data processing centers, or the data processing units and data collection centers.