

204B-9 MAGNETIC TAPE UNIT AND CONTROL

The 204B family of magnetic tape units processes data on half-inch magnetic tape in Series 200 systems. In particular, the Type 204B-9 Tape Unit processes data recorded at densities of 556 or 800 bits per inch (bpi). These densities, combined with a tape transport speed of 120 inches per second, yield nominal data transfer rates of 66,700 or 96,000 characters per second, respectively.¹

The 204B-9 tape unit operates in conjunction with the Type 203B-6 Tape Control in any Series 200 system. The tape control regulates data transfer between tape units and the central processor so as to reconcile mechanical tape unit speeds with electronic central processor speeds. In addition, the control performs all checks on data transfer operations, thus freeing the central processor for other activities.

PROGRAMMED OPERATIONS

A single tape write instruction causes the central processor to transfer data from a specified output area in main memory, on a character-by-character basis, to the tape control. The control in turn directs the performance of the write operation by the tape unit specified in the instruction. Writing is terminated when all of the data in the output area has been transferred to tape.

Similarly, a tape read instruction causes the tape control to direct a specific tape unit in reading data from tape (forward or backward²) into a programmer-defined input area. Reading is terminated when either the input area is filled or the control senses the gap marking the end of the record, whichever occurs first.

Other instructions cause a specified tape unit to back-space or space forward one record, to rewind tape to its logical or physical beginning, and to erase data from a section of tape.

TAPE COMPATIBILITY

All tape units and controls using half-inch magnetic tape may be equipped to process tapes which have been written at appropriate densities by IBM 727, 729, or 7330 series tape units or to write tapes to be read by these units. This capability includes end-of-file mark recognition and the ability to translate between card images in IBM even-parity, card-image tape code and Series 200 central processor code.

SIMULTANEITY

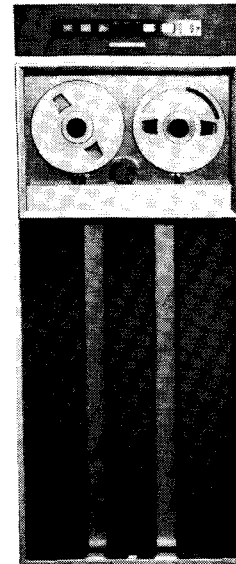
A powerful feature of the Series 200 is its peripheral simultaneity. In particular, the 203B-6 tape control allows one of the associated tape units to read (forward or backward²) or space (forward or backward) while another is writing or erasing and any or all of the remaining tape units are rewinding. All of these operations are performed simultaneously with computing.

Specifications remain subject to change in order to allow the introduction of design improvements.

112.0005.0226.0-282
8366
Printed in U.S.A.

When ordering this publication
please specify Title and Under-
scored portion of File Number.

SERIES 200



DATA PROTECTION

The design of Series 200 tape units incorporates the vacuum techniques which have earned Honeywell units an outstanding reputation for error-free operation. Vacuum is used to drive and stop the tape so as to avoid tape damage; the recording surface of the tape has physical contact only with the read/write head.

Information is doubly protected from destruction by an accidental write operation: to permit recording, a write-enable ring must be in place and a switch on the tape unit must be set to PERMIT.

All information written is immediately read and checked. During a write operation, a parity bit is generated for each frame and another is generated for each data channel. These bits accompany the record on tape. Frame and channel parity are checked while reading. Failure of any of these checks automatically sets an indicator which can be tested by a programmed instruction.

SPECIFICATIONS

TAPE: Reels of approximately 2400 feet of 1/2" Mylar³-base, oxide-coated tape. Half reels are also available.

DATA FORMAT: Variable-length records separated by 0.70" or 0.75" gaps. Records consist of 6-bit characters spaced at 556 or 800 per inch (nominal).¹

TRANSPORT: Pneumatic capstans and tape brakes.

TAPE TRANSPORT SPEED: 120" per second.

TIME TO CROSS INTERRECORD GAP AT FULL TRANSPORT SPEED: 0.70 inch gap — 5.83 ms.; 0.75 inch gap — 6.25 ms.

(Continued on reverse side)

Honeywell
ELECTRONIC DATA PROCESSING

DATA TRANSFER RATE (NOMINAL):

556 characters/inch — 66,700 characters/second.

800 characters/inch — 96,000 characters/second.

REWIND SPEED: 360" per second.

REWIND MODE:

Rewind — read/write head retracts, then returns when beginning of tape is sensed.

Rewind and release (interlocked) — read/write head retracts; tape unit is disconnected from system.

DATA PROTECTION: Write-enable ring and manual protect switch prevent destruction by unintentional write instruction. While writing, tape control generates even or odd frame parity and even channel parity.

Checks: Writing — Read during write and check of information written.

Reading — Frame and channel parity checks.

Failure of any check automatically sets a program-accessible indicator.

MAXIMUM NUMBER OF UNITS IN SYSTEM: 8 per con-

trol; number of controls limited only by the number of available trunks.⁴

PROGRAMMED OPERATIONS: Read forward, read backward,² write forward, backspace one record, space forward one record, rewind, rewind and release, and erase. Also available are capabilities for translation between card images in IBM even-parity tape code and Series 200 machine code, and recognition of IBM end-of-file mark.

SIMULTANEITY: One tape unit associated with a 203B-5 tape control can read or space (in either direction) while another writes or erases and any or all other tape units rewind. All of these operations are performed simultaneously with computing.

TRUNKS: A tape control requires two input/output trunks.

INPUT/OUTPUT AREA: Any main memory area.

¹The 203B-6 tape control is normally equipped to permit reading and writing 800 or 556 bits per inch; if specified at the time of the order, the capability of reading and writing 800 or 200 bits per inch can be provided as an alternative at no additional charge.

²Read backward is optional for the Model 120 and Model 200 computers.

³Registered trademark of E.I. du Pont de Nemours Company (Inc.).

⁴Feature 1015 (Series 200 Control Unit Adapter) or Feature 1016 (Series 200 Control Unit Adapter and R/W Channel) is required for the attachment of a 203B Tape Control to the Model 120 computer.