

This pocket reference sized document

**"COMPUTER CHARACTERISTICS QUARTERLY"**

First and Second Quarters 1967

by **adams associates**

was donated to the **Computer History Museum** by **Omri Serlin**

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This book is interesting because it lists the names of computers active in early 1967, some of their characteristics, and their manufacturers, in U.S., Denmark, England, France, Germany, Italy, Japan, Sweden, and The Netherlands.

I (Ed Thelen) made an attempt to identify any copyright holders and found nothing.

**Please Be Aware** - There are numerous omissions and errors in this document. Examples are:

- There is no hint that the CDC-6600 was as fast as it actually was. The report format has no provision to describe interleaved memory, multiple execution units, instruction cache, etc. nor their effect. There is no benchmark data.
- The CDC-6800 never was never manufactured, even though "First Delivery" is shown as 6/67.

This document contains:

- **Section I - CENTRAL PROCESSORS - (pages 1 - 112).**  
Listed alphabetically by manufacturer and country: United States 6, Denmark 66, England 66, France 76, Germany (West) 82, Italy 90, Japan 90, Sweden 108, The Netherlands 110.
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adams associates

**COMPUTER CHARACTERISTICS QUARTERLY**

FIRST AND SECOND QUARTERS 1967

*Omri Serlin*

adams associates  
**COMPUTER CHARACTERISTICS**  
**QUARTERLY**

First and Second Quarters 1967

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## About Adams Associates...

Though well known as the publisher of the *Computer Characteristics Quarterly*, Adams Associates is more widely recognized as one of the country's leading computer consulting and programming firms. While the services offered by Adams Associates extend to all areas of computer technology, its reputation stems primarily from outstanding accomplishments in a number of specialized fields, including:

- Graphic display and man-machine interaction
- On-line control
- Data communications
- Data reduction
- Simulation programming
- Information storage and retrieval
- Management information systems
- System design
- Computer evaluation and selection
- Computer technology seminars

Since its inception in 1959, Adams Associates has steadily grown to the point where its technical staff now consists of almost seventy computer analysts and programmers with unusual qualifications and diversified backgrounds. In recent years the interests and capabilities of its staff and the needs of its clients have led to increasing emphasis by the firm on the development and implementation of advanced techniques for on-line time-shared computing and graphic man-machine interaction.

Being pioneers as well as specialists in these fields, Adams Associates long recognized the need for an authoritative and comprehensive source of information on and analysis of all graphic display hardware, software, applications and trends. It answered this need by applying its extensive knowledge and broad experience to the publication, in July 1966, of *The Computer Display Review*. Though still in its first year, the *Review*, which is updated every four months, has already become a highly regarded and widely used reference on the subject of alphanumeric, line-drawing and related displays.

## What's new...?

Much of what's new in this issue of the *Computer Characteristics Quarterly* is already apparent — its new cover and size, its increased coverage of the salient features of central processors, all of which now appear in one section and are listed alphabetically by country and manufacturer; its expansion of the characteristics of peripheral devices and their inclusion in a separate section, its addition of charts and tables designed to provide comparative and useful information of various kinds.

What is not so apparent is that twenty-eight new central processors have been added to Section I. These include the introduction of Business Information Technology, Inc. and its 480, and Standard Computer Corporation and its IC 6000 series. The other additions are the Digital Equipment PDP-10, FAI 640, Honeywell DDP-416 and DDP-516, Hughes H3118M, Scientific Control 6700, Scientific Data SIGMA 5, SEL 840 MP, Westinghouse PRODAC 250, EELM 4/75, Bull GE GAMMA 55 and GAMMA 145 (formerly GAMMA 141), CAE 90/10, 90/40, 90/80 and 10070, Siemens 302, 304 and 305, Telefunken TR86, Fujitsu FACOM 230/10, 20, 30 and 50, Nippon Electric NEAC 2200/50, Toshiba TOSBAC 7000/60, and Philips PR 8000.

Forty-six computers have been deleted from this issue because they are no longer being marketed and the number of them still in operation is insignificant. These computers will appear, with others deleted in the past, in the Annual Supplement to the *Quarterly*.

Received too late for inclusion herein were announcements of the InterData Model 3, Hewlett Packard HP-2116A and Control Data 3150. Their characteristics will be reported, of course, in the next issue of the *Quarterly*.

**SECTION I**

**CENTRAL  
PROCESSORS**

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# Central Processors

## EXPLANATION OF COLUMN HEADINGS

### *Price Range*

Monthly in  
Thousand Dollars      The range of monthly rental prices from the minimum useful configuration to the maximum practical configuration.

### *First Delivery*

Month and Year      When the first operating installation was or is expected to be made.

### *Processor Speed*

Complete Add Time  
in Microseconds      The time required to acquire from memory and execute one fixed-point add instruction using all features such as overlapped memory banks, instruction look-ahead and parallel execution. The add is either from one full word in memory to a register, or from memory to memory; but not from register to register. For non-core-type machines, maximum optimization has been assumed.

Storage Cycle Time  
in Microseconds      For core storage, the total time to read and restore one storage word. For drum or other serial storage, the total time for one revolution.

Accumulators      The number of directly-accessible general-purpose arithmetic registers available.

*Internal Storage*      The primary memory of the computer from which instructions can be directly executed and data accessed by the central processor. Memory is assumed to be core unless otherwise stated.

Capacity in  
Thousand Words      The number of words of addressable internal storage available.

Word Size      The number and type of digits comprising one storage word (A - alphanumeric, six, seven or eight binary digits; D - decimal, four binary digits; B - binary, one binary digit).

Floating-Point Precision	The maximum number of binary digits used as the mantissa of a single-precision floating-point fraction.
Overlap	The number of available independent memory busses which can be simultaneously used to access memory from the central processor.

### ***Instruction Set***

Address Size	The maximum number of binary digits in an instruction used in directly addressing memory.
Operation Codes	The number of internal machine instructions available.
Indirect Addressing	The availability and level of indirect addressing (1 – single level, $\infty$ – unlimited).
Index Registers	The maximum number of special registers whose contents may be added to the address portion of an instruction to form an effective instruction address.
Extensiveness	The availability, as either standard or optional features, of byte manipulation, double precision, translate-edit capability, floating-point instructions, hardware multiply-divide, or logical operations.

### ***Time-Sharing***

	The availability of hardware features primarily for, or useful to, time-shared operation.
Base Address Relocation	The ability to augment memory references by the contents of a specific base register, alterable only in the supervisor mode.
Clock	A special-purpose addressable register automatically increased or decreased by one unit at a fixed rate.
Program Interrupt	A special feature which, on the occurrence or completion of an internal or external operation, can be used to initiate a new program sequence.
Memory Protection	The ability to prevent, under program control, portions of memory from being used by programs or input-output operations.
Dynamic Page Relocation	The segmentation of internal storage into blocks whose addressing is automatically controlled by a memory-protected set of addressable registers.
Supervisor Mode	A mode of operation only under which certain operations, such as memory-protection modification instructions and input-output operations, are permitted.

### ***Input-Output Channels***

Number	The number of individual buffered input-output channels available.
Transfer Rate	The maximum transfer rate in characters per second.

***Auxiliary Storage*** External mass storage devices, whether fixed or movable head, other than magnetic tape marketed by the central processor manufacturer. The manufacturer's model numbers for available devices are given.

***Magnetic Tape*** Available tape units marketed by the central processor manufacturer listed by the manufacturer's model number.

***Peripheral Devices*** Available peripheral devices marketed by the central processor manufacturer, listed by type (card reader, card punch, printer, paper-tape reader, paper-tape punch), using the manufacturer's model numbers.

### ***Software***

Algebraic Compiler	Assumed to be FORTRAN IV and available now or when the first computer is delivered, unless otherwise noted.
Monitor	The manufacturer-supplied executive or supervisory systems available now or when the first computer is delivered, unless otherwise noted.
Business Compiler	Assumed to be COBOL and available now or when the first computer is delivered, unless otherwise noted.



Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
---	----------------------------------	---	---------------------------------------	--------------	--	-----------	-------------------------------------	---------------------------------	-----------------	---------------------	-----------------	-----------------	----------------

#### ADAGE AMBIGLO 200

1.1	8/64	3	2	1	4-32	—	30b	15	∞	—	—	DHL <sup>M</sup>	I
-----	------	---	---	---	------	---	-----	----	---	---	---	------------------	---

J. Micro-programming of 15 bits in seven independently specified fields allows 2900 micro-instructions. L. Each word of memory can be used as an index register. M. Capable of masking and merging during register-to-

#### ADVANCED SCIENTIFIC 210

2-6	4/62	6	2	1	4-8	—	21b	13	1	48	3	HL	I
-----	------	---	---	---	-----	---	-----	----	---	----	---	----	---

#### ADVANCED SCIENTIFIC 2100

2.5-8	12/63	4	2	1	4-32	—	21b	13	∞	70	3	DHL	CI
-------	-------	---	---	---	------	---	-----	----	---	----	---	-----	----

#### ADVANCED SCIENTIFIC ADVANCE 6000 SERIES

2-5	3/65	3.8 <sup>x</sup>	1.9	1	4-32	39	24b	15	∞	111	3	XBE <sup>M</sup>	ACI
-----	------	------------------	-----	---	------	----	-----	----	---	-----	---	------------------	-----

A. On Model 6070 a second arithmetic unit can be used to decrease processing time of special-purpose problems. M. Floating-point hardware available with Models 6050 and 6070 only. R. 60751 also available. T. 60537 and 60545 also available. U. 60232 reader and 60245 punch

#### ADVANCED SCIENTIFIC ADVANCE 6130

8-7.5	1/67	1.8	.9	1	4-32	—	16b	8	∞	67	3	XEF	XP
-------	------	-----	----	---	------	---	-----	---	---	----	---	-----	----

V. W. See Advance 6000. X. ALGOL in addition to FORTRAN.

#### AUTONETICS RECOMP II

2.5-4.5	11/58	1080	9000	1	4 <sup>D</sup>	39	40b <sup>E</sup>	20	—	75	0	FH	—
---------	-------	------	------	---	----------------	----	------------------	----	---	----	---	----	---

D. Internal storage is disc. E. Instructions may be stored two per word.

### CENTRAL PROCESSORS CHARACTERISTICS

### Input-Output Channels

Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
--------	---------------	---------------------------------	--------------	---------------	-----------------------------------	------------	---------	-------------------	------------------	---	-------------------

— <sup>Q</sup>	—	—	—	MTP	—	—	—	—	PTP	√ <sup>X</sup>	—
10M	—	—	—	—	—	—	—	—	PTR	—	—

register transfer. Also contains a hybrid arithmetic unit micro-programmed to handle analog and digital data in a single operation. Q. Analog/digital as required. X. TOPS I and II in addition to FORTRAN.

2	2.1M	—	—	A11	A40	A60	A20	√	—	—	—
---	------	---	---	-----	-----	-----	-----	---	---	---	---

8	10.5M	—	—	A11	A40	A64	A20	√	—	—	—
---	-------	---	---	-----	-----	-----	-----	---	---	---	---

8	12M	60711 <sup>R</sup>	60611	60501 <sup>T</sup>	60220 <sup>U</sup>	60326 <sup>V</sup>	60040 <sup>W</sup>	√	—	—	—
---	-----	--------------------	-------	--------------------	--------------------	--------------------	--------------------	---	---	---	---

also available. V. 60330 and 60334 also available. W. 60045 reader/punch and ASR 33/35 teletype also available. Note. Series consists of four models: 6020, 6040, 6050, 6070.

6	1.1M	—	—	60501 <sup>T</sup>	—	60326 <sup>V</sup>	60040 <sup>W</sup>	√ <sup>X</sup>	—	—	—
---	------	---	---	--------------------	---	--------------------	--------------------	----------------	---	---	---

2	*	—	—	M906	*	—	AFPC	√ <sup>X</sup>	—	—	—
---	---	---	---	------	---	---	------	----------------	---	---	---

X. SALT and SCOPAC. Note. System no longer marketed.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
**Storage Cycle Time**  
 in Microseconds  
**Accumulators**  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### BECKMAN 420

2.2-3 6/64 6.4 1 4-32 — —<sup>H</sup> ∞ HL IM  
 18b — 56 —<sup>L</sup>

H. Variable-field addressing mode. L. Each word of memory can be

### BIT 480

.24-.75 12/66 16 1 1-65 — —<sup>H</sup> ∞ B I  
 8<sup>B</sup> 8b 5 37 —

B. Two-microsecond memory also available. H. Variable-field addressing mode. Q. 4M with two-microsecond memory. W. ASR 33/35

### BURROUGHS B160, B170, B180

1.9-6.2 4/64 690<sup>A</sup> — 4.8 — 18 — BHL —  
 10<sup>B</sup> 1a<sup>E</sup> — 79 0

A. Assumes two five-character fields. B. Per byte. E. Memory is organized in six-bit characters or bytes. T. Not available on B160. U. B123

### BURROUGHS B250

2.8-6.7 9/61 690<sup>A</sup> — 4.8 — 18 — BHL —  
 10<sup>B</sup> 1a<sup>E</sup> — 30 0

A, B, E, U. See B160. V. B321 and B328 also available. Note. System

### BURROUGHS B260, B270, B280

6.5 7/62 690<sup>A</sup> — 4.8 — 18 — BHL —  
 10<sup>B</sup> 1a<sup>E</sup> — 79 0

A, B, E, U. See B160. T. Not available on B260. V. See B250.

### BURROUGHS B263, B273, B283

7.1 1/64 414<sup>A</sup> — 4.8-9.6 — 18 — BHL —  
 6<sup>B</sup> 1a<sup>E</sup> — 79 0

A, B, E. See B160. R. B475 disc file also available. T. B422 and B423 also available. U. B123, B124 and B129 readers, and B304 punch also

### Input-Output Channels

Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

8 1.9M — — \* — \* — \* — — R —

used as an index register. Note. System no longer marketed.

4 1M<sup>Q</sup> \* — \* \* \* \*<sup>W</sup> \*<sup>W</sup> — —

teletype also available.

1 .6M B430 — B423<sup>T</sup> B122<sup>U</sup> B320<sup>V</sup> — — — —  
 B303<sup>U</sup> — — — —

and B124 readers, and B304 punch also available. V. B321 also available.

1 .6M B430 — B122<sup>U</sup> B320<sup>V</sup> — — — —  
 B303<sup>U</sup> — — — —

designed for banking applications.

1 .6M B430 — B423<sup>T</sup> B122<sup>U</sup> B320<sup>V</sup> — — — —  
 B303<sup>U</sup> — — — —

1 .6M B430<sup>R</sup> — B421<sup>T</sup> B122<sup>U</sup> B320<sup>V</sup> B341 — — ✓  
 B303<sup>U</sup> B141

available. V. B321, B325, B328 and B329 also available.

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, \* see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars  
 First Delivery Month and Year  
 Processor Speed Complete Add Time in Microseconds  
 Storage Cycle Time in Microseconds  
 Accumulators  
 Internal Storage Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
 Instruction Set Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
 Time-Sharing ‡

#### BURROUGHS B300

4.8-14.2 7/65 414<sup>A</sup> 6<sup>B</sup> — 4.8-19.2 1a<sup>E</sup> — 18 79 0 BHL —

A, B, E. See B160. T. B422, B423 and B424 also available. R, U, V. See

#### BURROUGHS B2500

4.2-12.3 5/67 64<sup>A</sup> 2<sup>B</sup> — 5-30 99<sup>F</sup> 2a<sup>E</sup> — 24 ∞ 99 3<sup>L</sup> XD XP

A. Assumes two five-digit fields. B. Per two bytes. E. Memory is organized in eight-bit bytes or two four-bit digits. F. Decimal digits. L. For each program. P. Up to ten available. T. 9382 and 9390

#### BURROUGHS B3500

4.8-20 5/67 32<sup>A</sup> 1<sup>B</sup> 3 5-250 99<sup>F</sup> 2a<sup>E</sup> — 24 ∞ 99 3<sup>L</sup> XD XP

A, B, E, F, L, T, U, V. See B2500. P. Up to 20 available.

#### BURROUGHS B5500

16-164 11/64 2<sup>A</sup> 4 — 4-32 39 48b — 15 ∞ 0 XBE XP

A. Instruction look-ahead allows increased internal speed. J. Programs are written in source language. P. Up to four floating channels available. R, U, V. See B263. T. See B300. X. ALGOL in addition to

#### BURROUGHS B6500

25-80 1/68 .4<sup>A</sup> .6 — 16-106<sup>D</sup> 39 48b — 15 ∞ 0 XBE XP

A, J, X. See B5500. D. Thin-film memory. P. Up to eight floating

#### BURROUGHS B8500

100-500 1/67 .2<sup>A</sup> .5<sup>B</sup> 13 16-262<sup>D</sup> 35 48b 16 18 ∞ 59 —<sup>L</sup> ALL ALL

A. Parallel execution of instructions allows increased internal speed. B. Per four words. D. See B6500. L. Each word of memory can be

### CENTRAL PROCESSORS CHARACTERISTICS

### Input-Output Channels

Number  
 Transfer Rate  
 Auxiliary Storage Fixed Head  
 Movable Head  
 Magnetic Tape  
 Peripheral Devices Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
 Software Algebraic Compiler  
 Monitor ‡  
 Business Compiler

1 6M B430<sup>R</sup> — B421<sup>T</sup> B122<sup>U</sup> B320<sup>V</sup> B341 — √  
 B263. B303<sup>U</sup> B141 — —

4<sup>P</sup> 1M 9372 — 9381<sup>T</sup> 9110<sup>U</sup> 9240<sup>V</sup> 9220 √ √  
 9210<sup>U</sup> 9120 — GRT  
 series also available. U. 9111 and 9112 readers, and 9211 punch also available. V. 9241 and 9242 also available.

6<sup>P</sup> 2M 9372 — 9381<sup>T</sup> 9110<sup>U</sup> 9240<sup>V</sup> 9220 √ √  
 9210<sup>U</sup> 9120 — GRT

1<sup>P</sup> \* B430<sup>R</sup> B421<sup>T</sup> B122<sup>U</sup> B320<sup>V</sup> B341 √<sup>X</sup> √  
 \* B475 B303<sup>U</sup> B141 — GRT  
 FORTRAN. Note. All B5000 systems have been field-converted to B5500 systems.

4<sup>P</sup> \* 9372 — 9381<sup>T</sup> 9110<sup>U</sup> 9240<sup>V</sup> 9220 √<sup>X</sup> √  
 9210<sup>U</sup> 9120 — GRT  
 channels available. T, U, V. See B2500.

512 38M 9372 — 9381<sup>T</sup> 9110<sup>U</sup> 9240<sup>V</sup> 9220 √<sup>X</sup> √  
 9210<sup>U</sup> 9120 — GRT  
 used as an index register. T, U, V. See B2500. X. See B5500.

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, \* see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Completes Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision	Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
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### COLLINS C-8500

2.5-3.6	1/67	4.5	2	1	4-65	—	—	—	18	1	—	3	BDL	IM
					32b	—	—	—	93	—	—	—	—	—

T. 8841A/1 also available. W. ASR 33/35 teletype available.

### CONTROL DATA 160

1.5-4	7/60	12.8	6.4	1	4	—	—	—	6	—	—	0	L	C
					12b	—	—	—	64	—	—	—	—	—

T. 603, 604 and 606 also available. U. 405 punch also available.

### CONTROL DATA 160A

2.2-9.3	7/61	12.8	6.4	1	8-32	—	—	—	6	1	—	0	L	I
					12b	—	—	—	130	—	—	—	—	—

T, U, V, W. See 160. Z. AUTOCOMM.

### CONTROL DATA 160G

3.9-12	4/64	3	1.35	1	8-131	—	—	—	6 <sup>H</sup>	—	—	—	—	I
					13b	—	—	—	189	—	—	0	—	—

H. 19b address also possible. V. 166, 505 and 1612 also available.

### CONTROL DATA 924A

8-21	8/61	9.3	6.4	1	8-32	—	—	—	15	∞	—	6	HL	CI
					24b	—	—	—	66	—	—	—	—	—

P. Three input and three output. T. 606 also available. U, V, W. See

### CONTROL DATA 1604A

30-50	1/60	4.8	6.4	1	32	36	—	—	15	∞	—	6	FHL	IC
					48b	—	—	—	62	—	—	—	—	—

P. See 924A. W. See 160. Note. System no longer marketed.

## CENTRAL PROCESSORS CHARACTERISTICS

## Input-Output Channels

Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
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32	5.1M	8873	8871	8046 <sup>T</sup>	8861	8862	8852	— <sup>w</sup>	— <sup>w</sup>	√	—
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2	75K	*	*	163 <sup>T</sup>	167 <sup>U</sup>	415	166 <sup>V</sup>	— <sup>w</sup>	350	√	—
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V. 1612 also available. W. BRPE-11 teletype available.

2	70K	*	*	163 <sup>T</sup>	167 <sup>U</sup>	415	166 <sup>V</sup>	— <sup>w</sup>	350	√	√ <sup>Z</sup>
---	-----	---	---	------------------	------------------	-----	------------------	----------------	-----	---	----------------

8	*	*	*	604	405	415	501 <sup>V</sup>	174G	174G	√	√ <sup>Z</sup>
---	---	---	---	-----	-----	-----	------------------	------	------	---	----------------

Z. See 160A.

6 <sup>P</sup>	*	*	*	603 <sup>T</sup>	167 <sup>U</sup>	415	166 <sup>V</sup>	— <sup>w</sup>	350	√	—
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160. Note. System no longer marketed.

6 <sup>P</sup>	135K	—	*	606	405	415	1612	— <sup>w</sup>	— <sup>w</sup>	√	√
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† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability,  
F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory  
protection, P - dynamic page relocation, S - supervisor mode.  
§ G - batch, R - real-time, T - time-sharing.  
— none, ☆ see Section II-B, • information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
**Storage Cycle Time**  
 in Microseconds  
**Accumulators**  
**Internal Storage**  
 Capacity in Thousand Words  
**Word Size**  
**Floating-Point Precision**  
**Overlap**  
**Instruction Set**  
 Address Size  
**Operation Codes**  
**Indirect Addressing**  
**Index Registers**  
 Extensiveness †  
**Time-Sharing ‡**

#### CONTROL DATA 1700

1.1-10	2.2	1	4-32	—	15	∞	HL	IM
3/66	1.1	16b	—	72	2			

S. 854 also available. Note. No rental price announced. Prices derived

#### CONTROL DATA 3100

3-17	3.5	1	8-32	36	15-17	∞	XE	
2/65	1.75	24b	—	164	3		CIM	

S. 814, 852, 853 and 854 also available. T. 604 and 607 also available.  
 U. 3142 reader also available. V. 505, 3152 and 3254 also available.

#### CONTROL DATA 3200

5-20	2.5	1	8-32	36	15-17	∞	XE	
5/64	1.25	24b	—	164	3		CIM	

S, T, U, V, W, X. See 3100. Note. System no longer marketed.

#### CONTROL DATA 3300

5.5-30	2.75	1	8-262	36	15	∞	ALL	
12/65	1.25	24b	√	201	3		ALL	

S, T, U, V, W, X. See 3100.

#### CONTROL DATA 3400

17-30	2.6	1	16-32	36	15	∞	XDE	
11/64	1.5	48b <sup>E</sup>	—	75	6		IM	

E. Instructions stored two per word. S, T, U, V, W, X. See 3100.

#### CONTROL DATA 3500

6-28	1.3 <sup>A</sup>	*	8-262	*	*	√	BF	
3/67	.8	24b	√	*	3		AIM	

S, T, U, V, W. See 3100.

### CENTRAL PROCESSORS CHARACTERISTICS

**Input-Output Channels**  
 Number  
**Transfer Rate**  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

4	1.4M	1751	853 <sup>S</sup>	601	1729	—	1742	1723	√	—
							1721		R	

from purchase price.

4	1.1M	863	813 <sup>S</sup>	601 <sup>T</sup>	405 <sup>U</sup>	415	501 <sup>V</sup>	3691 <sup>W</sup>	√ <sup>X</sup>	√
								3691 <sup>W</sup>		GR

W. 3694 reader/punch also available. X. ALGOL in addition to FORTRAN.

8	1.9M	863	813 <sup>S</sup>	601 <sup>T</sup>	405 <sup>U</sup>	415	501 <sup>V</sup>	3691 <sup>W</sup>	√ <sup>X</sup>	√
								3691 <sup>W</sup>		GR

8	1.8M	863	813 <sup>S</sup>	601 <sup>T</sup>	405 <sup>U</sup>	415	501 <sup>V</sup>	3691 <sup>W</sup>	√ <sup>X</sup>	√
								3691 <sup>W</sup>		GRT

4	4M	863	813 <sup>S</sup>	601 <sup>T</sup>	405 <sup>U</sup>	415	501 <sup>V</sup>	3691 <sup>W</sup>	√ <sup>X</sup>	√
								3691 <sup>W</sup>		GR

Note. System no longer marketed.

*	*	863	813 <sup>S</sup>	601 <sup>T</sup>	405 <sup>U</sup>	415 <sup>U</sup>	501 <sup>V</sup>	3691 <sup>W</sup>	√	√
								3691 <sup>W</sup>	*	

†X—all except: B—byte manipulation, D—double precision, E—translate-edit capability,  
 F—floating-point instructions, H—hardware multiply-divide, L—logical operations.  
 ‡X—all except: A—base address relocation, C—clock, I—program interrupt, M—memory  
 protection, P—dynamic page relocation, S—supervisor mode.  
 § G—batch, R—real-time, T—time-sharing.  
 — none, \* see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
---	----------------------------------	---	---------------------------------------	--------------	--	-----------	-------------------------------------	---------------------------------	-----------------	---------------------	-----------------	-----------------	----------------

#### CONTROL DATA 3600

38-66	6/63	2.07	1.4	1	32-262	36	✓	18	98	8	6	XE	CIM
					48b								

S, T, U, V, W, X. See 3100.

#### CONTROL DATA 3800

42-70	12/65	1.0	.9	1	32-262	36	✓	18	117	8	6	XE	ALL
					48b								

S, 814, 853 and 854 also available. T, 607 also available. V, 505 also

#### CONTROL DATA 6400

37-61	4/66	1.1	1	8	32-131	48	✓	18	—	—	8	XBE	ALL
					60b				73				

S. See 3800. T, 607 and 626 also available. X. See 3100.

#### CONTROL DATA 6600

62-91	9/64	.3	1	8	32-131	48	✓	18	—	—	8	XBE	XP
					60b				73				

S. See 3800. T. See 6400. X. See 3100.

#### CONTROL DATA 6800

62-155	6/67	.1	.25	*	32-131	*	✓	*	*	✓	8	F	IM
					60b								

S. See 3800. T. See 6400. X. See 3100.

#### CONTROL DATA 8090

*	7/64	12.8	6.4	1	8-32	—	—	6	1	1	0	L	I
					12b				130				

R, 8952 also available. T. See 160. V. See 160G. W, 8075 reader

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
---------------------------------	---------------	---------------------------------	--------------	---------------	-----------------------------------	------------	---------	-------------------	------------------	---	-------------------

32	5.8M	863	813 <sup>s</sup>	601 <sup>T</sup>	405 <sup>U</sup>	415	501 <sup>V</sup>	3691 <sup>W</sup>	3691 <sup>W</sup>	√ <sup>X</sup>	√
										GR	

32	36M	863	813 <sup>s</sup>	604 <sup>T</sup>	405	415	501 <sup>V</sup>	3694	3694	√ <sup>X</sup>	√
										GRT	

available. X. See 3100.

12	2M	863	813 <sup>s</sup>	604 <sup>T</sup>	405	415	501	—	—	√ <sup>X</sup>	√
										GRT	

12	2M	863	813 <sup>s</sup>	604 <sup>T</sup>	405	415	501	—	—	√ <sup>X</sup>	√
										GRT	

*	*	863	813 <sup>s</sup>	604 <sup>T</sup>	405	415	501	—	—	√ <sup>X</sup>	√
										*	

2	1M	8951 <sup>R</sup>	852	601 <sup>T</sup>	405	415	501 <sup>V</sup>	8079	8074 <sup>W</sup>	—	√ <sup>Z</sup>

also available. Z. See 160A.

†X - all except: B - byte manipulation, D - double precision, E - translate-edit capability,  
F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
‡X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory  
protection, P - dynamic page relocation, S - supervisor mode.  
§ G - batch, R - real-time, T - time-sharing.  
— none, ☆ see Section II-B, \* information unavailable.

### CENTRAL PROCESSORS CHARACTERISTICS

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
---	----------------------------------	---	---------------------------------------	--------------	--	-----------	-------------------------------------	---------------------------------	-----------------	---------------------	-----------------	-----------------	----------------

#### CONTROL DATA 8092

*	/64	12	4	1	2-4	8b	—	8	1	1	—	L	—
---	-----	----	---	---	-----	----	---	---	---	---	---	---	---

#### CONTROL DATA G-20

12-23	4/61	12 <sup>A</sup>	6	1	4-32	32b	—	15	1	1	63	XBE	CI
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A. All arithmetic operations done in floating-point mode. Note. System

#### CONTROL DATA LGP-21

5-1.5	3/65	7350 <sup>A</sup>	51000	1	4 <sup>D</sup>	32b	—	12	—	—	0	—	—
-------	------	-------------------	-------	---	----------------	-----	---	----	---	---	---	---	---

A. Minimum execution time for any instruction. D. Internal storage is disc. Interlaced storage arrangement reduces access time. X. ACT XXI.

#### CONTROL DATA RPC 4000

1.8-4.5	11/60	1000	17000	1	8 <sup>D</sup>	32b	—	—	—	—	1	HL	—
---------	-------	------	-------	---	----------------	-----	---	---	---	---	---	----	---

D. Internal storage is drum. X. COMPACT in addition to FORTRAN.

#### DATA MACHINES 610 SERIES

3-5	7/64	6000 <sup>A</sup>	3000 <sup>B</sup>	1	2-4 <sup>D</sup>	12b	—	8	—	—	1 <sup>L</sup>	L	C
-----	------	-------------------	-------------------	---	------------------	-----	---	---	---	---	----------------	---	---

A. Model 612 has add time of 200 microseconds. B. Memory is magnetostrictive delay line. Model 612 has cycle time of 100 microseconds. D. Model 610 has 256-word memory. J. Micro-programming increases instruction

#### DATA MACHINES 620

6	7/65	3.6	1.8	1	2-32	16b <sup>E</sup>	—	9	1	—	2 <sup>L</sup>	BHL	CIM
---	------	-----	-----	---	------	------------------	---	---	---	---	----------------	-----	-----

E. Other word sizes available. J. See 610. L. Additional 32 optionally

#### Input-Output Channels

Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
--------	---------------	---------------------------------	--------------	---------------	-----------------------------------	------------	---------	-------------------	------------------	---	-------------------

2	.1M	*	—	601	405	415	166	8299	8291	—	—
---	-----	---	---	-----	-----	-----	-----	------	------	---	---

*	*	—	*	*	*	*	*	*	*	√	√
---	---	---	---	---	---	---	---	---	---	---	---

no longer marketed.

*	*	—	—	—	*	—	—	*	*	√ <sup>X</sup>	—
---	---	---	---	---	---	---	---	---	---	----------------	---

Note. System no longer marketed.

*	*	—	—	—	—	—	—	*	*	√ <sup>X</sup>	—
---	---	---	---	---	---	---	---	---	---	----------------	---

Note. System no longer marketed.

*	*	—	—	—	—	—	—	— <sup>W</sup>	— <sup>W</sup>	—	—
---	---	---	---	---	---	---	---	----------------	----------------	---	---

repertoire. L. Model 610 has no index registers. W. ASR 33 teletype available. Note. No rental price announced. Prices derived from purchase price.

64	*	—	*	*	*	*	*	*	*	√	—
----	---	---	---	---	---	---	---	---	---	---	---

available. Note. See 610.

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
§ G - batch, R - real-time, T - time-sharing.  
— none, \* see Section II-B, \* information unavailable.

### CENTRAL PROCESSORS CHARACTERISTICS

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

#### DIGITAL ELECTRONICS DIGIAC 3080

37.6 12/64 2000 17000 1 1-4<sup>D</sup> — 25b — 12 38 0 H —

D. Internal storage is drum. Note. No rental price announced. Prices

#### DIGITAL EQUIPMENT LINC-8

1-1.2 7/66 3.0 1.5 1<sup>C</sup> 4-32 — 12b — 10 8<sup>J</sup> 1 0<sup>L</sup> DH CI

C. Dual processor includes line and PDP-8; two accumulators are independently available. J. Micro-programming increases instruction repertoire. L. 16 auto-indexing memory locations per 1024 words of memory.

#### DIGITAL EQUIPMENT PDP-1

3.6 11/60 10 5 1 4-65 — 18b — 12 32<sup>J</sup> 1 0 DH CI

J, U, V. See Linc-8. W. BRPE-11 teletype available. X. DECAL.

#### DIGITAL EQUIPMENT PDP-4

1-6 7/62 16 8 1 4-32 — 18b — 13 16<sup>J</sup> 1 0<sup>L</sup> HL CIM

J, U, V. See Linc-8. L. Eight auto-indexing memory locations per 4000 words of memory. W. See PDP-1. Note. See Linc-8. System no longer

#### DIGITAL EQUIPMENT PDP-5

6-25 9/63 18 6 1 1-32 — 12b — 8 8<sup>J</sup> 1 0<sup>L</sup> DH CI

J, U, V. See Linc-8. L. See PDP-4. W. See PDP-1. Note. See

#### DIGITAL EQUIPMENT PDP-6

6.2-30 10/64 4.4<sup>A</sup> 1.75 16 16-262<sup>D</sup> 27 36b 1<sup>G</sup> 18 263 15 XE XP

A. Add time varies between 3.3 and 4.7 microseconds depending upon memories used. D. 16 words with 0.4-microsecond cycle time available.

#### Input-Output Channels

Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor \$  
 Business Compiler

8 .8K — — 3089 — — — √ —  
 derived from purchase price.

64 8M 251<sup>R</sup> — 50<sup>T</sup> CR01C<sup>U</sup> 64<sup>V</sup> PC03 — —  
 \* PC02  
 R. RM08 also available. T. 545 and TU55 also available. U. 451A and 451B reader also available. V. 647 also available. Note. No rental price announced. Prices derived from purchase price.

64 2.4M — — TU55 CR01C<sup>U</sup> 64<sup>V</sup> —<sup>W</sup> √<sup>X</sup> —  
 \* 750  
 Note. See Linc-8. System no longer marketed.

64 2.3M — — TU55 CR01C<sup>U</sup> 64<sup>V</sup> —<sup>W</sup> √ —  
 \* 750  
 marketed.

64 8M — — TU55 CR01C<sup>U</sup> 64<sup>V</sup> —<sup>W</sup> √ —  
 \* 750  
 Linc-8. System no longer marketed.

128 36M — 270 TU55 451 64<sup>V</sup> PC01 √ √  
 \* PC01 T  
 G. Per module of memory. V. See Linc-8. Note. See Linc-8. System no longer marketed.

†X—all except: B—byte manipulation, D—double precision, E—translate-edit capability,  
 F—floating-point instructions, H—hardware multiply-divide, L—logical operations.  
 ‡X—all except: A—base address relocation, C—clock, I—program interrupt, M—memory  
 protection, P—dynamic page relocation, S—supervisor mode.  
 § G—batch, R—real-time, T—time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.



**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
**Storage Cycle Time**  
 in Microseconds  
**Accumulators**  
**Internal Storage**  
 Capacity in  
 Thousand Words  
**Word Size**  
**Floating-Point Precision**  
**Overlap**  
**Instruction Set**  
 Address Spe  
**Operation Codes**  
**Indirect Addressing**  
**Index Registers**  
**Extensiveness †**  
**Time-Sharing ‡**

### DIGITAL EQUIPMENT PDP-7

1.2-5	12/64	3.5	1	4-32	—	13	1	HL	
			1.75	18b	—	16 <sup>J</sup>	0 <sup>L</sup>	CIM	

J. See Linc-8. L. See PDP-4. W. See PDP-1. Note. See Linc-8.

### DIGITAL EQUIPMENT PDP-8

.45-3	4/65	3.0	1	4-32	—	8	1	DH	
			1.5	12b	—	8 <sup>J</sup>	0 <sup>L</sup>	CI	

J, R, T, U, V. See Linc-8. L. See PDP-4. Note. See Linc-8.

### DIGITAL EQUIPMENT PDP-8/S

.25	9/66	33	1	4	—	8	1	DH	
			8	12b	—	8 <sup>J</sup>	0 <sup>L</sup>	CI	

J, U. See Linc-8. L. See PDP-4. Note. See Linc-8.

### DIGITAL EQUIPMENT PDP-9

.8-1.8	8/66	2	1	8-32	—	13	1	HL	
			1	18b	—	16 <sup>J</sup>	0 <sup>L</sup>	CIM	

J. See Linc-8. L. See PDP-4. Note. See Linc-8.

### DIGITAL EQUIPMENT PDP-10 SERIES

6-30	9/67	2.1	16	8-262	27	18	∞	XE	
			1	36b	1 <sup>G</sup>	365	15	XP	

G. See PDP-6. V. See Linc-8. Note. See Linc-8.

### EAI 640

28-120	2/67	3.3	2	4-32	—	15	∞	DHL	
			1.65	16b	—	62	1	XAP	

W. ASR 33/35 teletype also available.

## CENTRAL PROCESSORS CHARACTERISTICS

### Input-Output Channels

**Number**  
**Transfer Rate**  
**Auxiliary Storage**  
 Fixed Head  
**Movable Head**  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
**Card Punch**  
**Printer**  
**Paper-Tape Reader**  
**Paper-Tape Punch**  
**Software**  
 Algebraic Compiler  
**Monitor §**  
**Business Compiler**

4	11M	24	—	TU55	CR01C	647	— <sup>W</sup>	√	—
							750		

System no longer marketed.

64	8M	251 <sup>R</sup>	—	50 <sup>T</sup>	CR01C <sup>U</sup>	64 <sup>V</sup>	PC03	√ <sup>X</sup>	—
					*		PC02	R	

64	1.5M	—	—	—	CR01C <sup>U</sup>	—	PC03	√	—
					*		PC02		

8	4.5M	RM09	—	TU55	CR01C	647	PC03	√	—
							PC02		

128	36M	—	270	TU55	451	64 <sup>V</sup>	PC01	√	√
						*	PC01		GRT

4	*	—	250	—	—	—	421 <sup>W</sup>	— <sup>W</sup>	√	—
---	---	---	-----	---	---	---	------------------	----------------	---	---

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability,  
 F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory  
 protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### EAI 8400

7-22 7/65 5.28 1 8-64 23 16 8 XE  
 1.75 32b 3 150 7 XAP  
 T. 8475, 8477 and 8479 also available. U. 8453 and 8454 readers and

### GENERAL ELECTRIC 115

1.3-5 4/66 148<sup>A</sup> 1 4-16 — 16 — BEL  
 6.5<sup>B</sup> 1a<sup>E</sup> √ 38 0 —  
 A. Assumes two five-character fields. B. Per byte. E. Memory is organized in eight-bit characters or bytes. U. 103 punch also available.

### GENERAL ELECTRIC 205

1.7-5.5 7/64 72 1 4-16 30 13 — XBE  
 36 20b — 200 96 I  
 T. 690 and 301 also available. X. WIZ. Note. System no longer

### GENERAL ELECTRIC 210

10.5-36 11/60 64<sup>A</sup> 1 4-8 — \* — —  
 32<sup>B</sup> 6d<sup>E</sup> — \* 1 —  
 A. Assumes two six-digit fields. B. Per six digits. E. Memory is organized in four-bit digits. T. See 205. Z. CAP. Note. System no

### GENERAL ELECTRIC 215

2.5-10 9/63 72 1 4-16 30 13 — XBE  
 36 20b — 200 96 I  
 T, X. See 205. Note. System no longer marketed.

### GENERAL ELECTRIC 225

2.5-26 4/61 36 1 4-16 30 15 — XBE  
 18 20b — 200 96 I  
 T, X. See 205. V. 690 also available. Note. System no longer marketed.

## CENTRAL PROCESSORS CHARACTERISTICS

**Input-Output Channels**  
 Number

Transfer Rate

**Auxiliary Storage**  
 Fixed Head  
 Movable Head

**Magnetic Tape**

**Peripheral Devices**  
 Card Reader

Card Punch

Printer

Paper-Tape Reader

Paper-Tape Punch

**Software**  
 Algebraic Compiler  
 Monitor §

Business Compiler

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Auxiliary Storage Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler	Software Monitor §	Software Business Compiler
7	3.2M	8494	8473 <sup>T</sup>	8452 <sup>U</sup>	8461 <sup>V</sup>	8455 <sup>U</sup>	8441	—	—	√	—	—
8456 punch also available. V. 8462 and 8463 also available.												
2	62K	—	—	100	100 <sup>V</sup>	100	100	—	—	—	—	√ <sup>Z</sup>
V. 110 also available. Z. TAB.												
3	42K	—	204	680 <sup>T</sup>	225	225	652	652	√ <sup>X</sup>	*	√	—
marketed.												
3	42K	—	204	680 <sup>T</sup>	225	225	652	652	—	—	—	√ <sup>Z</sup>
longer marketed.												
3	42K	—	204	680 <sup>T</sup>	225	225	652	652	√ <sup>X</sup>	*	√	—
longer marketed.												
8	80K	—	204	680 <sup>T</sup>	225	225 <sup>V</sup>	652	652	√ <sup>X</sup>	*	√	—

†X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### GENERAL ELECTRIC 235

6-28      12      1      4-16      30      15      —      XBE  
           4/64      6      20b      —      300      96  
 T, X. See 205.

### GENERAL ELECTRIC 412

\*      40      1      4-16      —      13      —      D  
           7/62      20      20b      † —      \*      3  
 W. 4213 reader and ASR 33/35 teletype also available.      X. COOL. (Con-

### GENERAL ELECTRIC 415

4.8-13.5      25.1      1      8-32      38      15      ∞      ALL  
           5/64      5.8      24b      —      80      6      XPS  
 R. 300 also available.      S. 338 also available.      T. 201, 211, 300, 301, 311,

### GENERAL ELECTRIC 425

6-20      17.0      1      8-32      38      15      ∞      ALL  
           6/64      3.9      24b      —      80      6      XPS  
 R, S, T, U. See 415.

### GENERAL ELECTRIC 435

8-25      12.6      1      16-32      38      15      ∞      ALL  
           9/65      2.7      24b      —      80      6      XPS  
 R, S, T, U. See 415.

### GENERAL ELECTRIC 625

31-135      3      1      32-262      64      18      ∞      ALL  
           4/65      2<sup>B</sup>      36b      —      175      8      XPS  
 B. Per two words.      R, S, T, U. See 415.

## CENTRAL PROCESSORS CHARACTERISTICS

## Input-Output Channels

Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
8	80K	—	204	680 <sup>T</sup>	225	225	225	652	652	√ <sup>X</sup> *	√
1	.4M	4220	4548	—	4244	4280	4260	4212 <sup>W</sup>	4253 <sup>W</sup>	√ <sup>X</sup> *	—
trol Oriented Language).											
12	400K	200 <sup>R</sup>	204 <sup>S</sup>	200 <sup>T</sup>	201	100 <sup>U</sup>	201	200	200	√ <sup>X</sup> *	√
402, 403, 404, 405, 411 and 412 also available.      U. 201 punch also available.											
12	400K	200 <sup>R</sup>	204 <sup>S</sup>	200 <sup>T</sup>	201	100 <sup>U</sup>	201	200	200	√ <sup>X</sup> *	√
12	400K	200 <sup>R</sup>	204 <sup>S</sup>	200 <sup>T</sup>	201	100 <sup>U</sup>	201	200	200	√ <sup>X</sup> *	√
64	400K	200 <sup>R</sup>	204 <sup>S</sup>	200 <sup>T</sup>	201	100 <sup>U</sup>	201	200	200	√ <sup>X</sup> *	√

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability,  
 F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory  
 protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time sharing.  
 — none, ☆ see Section II-B. \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
**Storage Cycle Time**  
 in Microseconds  
**Accumulators**  
**Internal Storage**  
 Capacity in Thousand Words  
**Word Size**  
**Floating-Point Precision**  
**Overlap**  
**Instruction Set**  
 Address Size  
**Operation Codes**  
**Indirect Addressing**  
**Index Registers**  
**Extensiveness †**  
**Time-Sharing ‡**

### GENERAL ELECTRIC 635, 645

35-165      1.8      1      32-1048   64      18      ALL  
 5/65      1<sup>b</sup>      36b      —      175      8      ALL<sup>N</sup>

B. See 625.      N. Dynamic page relocation and supervisory mode for 645

### GENERAL ELECTRIC DATANET-30

1.5-4.5      14      1      4-16      —      10      1      —  
 10/63      7      18b      —      78      —      CI

Q. Bits per second.      T. 690 also available.

### GENERAL ELECTRIC GE/PAC 4020

\*      3.2      1      2-32      —      15      —      —  
 10/66      1.6      24b      —      28      7      IM

T. See 415.      W. See 412.

### GENERAL ELECTRIC GE/PAC 4040

\*      16      1      4-16      —      13      —      —  
 4/64      5      24b      —      22      7      IM

T. See 415.      W. See 412.

### GENERAL ELECTRIC GE/PAC 4050 I

\*      10.2      1      4-64      17      13      —      BDF  
 6/65      5.1      24b      —      36      7      IM

T. See 415.      W. See 412.

### GENERAL ELECTRIC GE/PAC 4050 II

\*      6.8      1      4-64      17      13      —      BDF  
 6/66      3.4      24b<sup>E</sup>      —      36      7      IM

T. See 415.      W. See 412.

## CENTRAL PROCESSORS CHARACTERISTICS

**Input-Output Channels**  
 Number  
**Transfer Rate**  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

64      200<sup>R</sup>      200<sup>T</sup>      201      201      200  
 400K      204<sup>S</sup>      100<sup>C</sup>      200  
 only.      R, S, T, U. See 415.

128      —      680<sup>T</sup>      930      225A      —  
 2.4K<sup>Q</sup>      204      930      \*      —

7      4220      200<sup>T</sup>      4244      4260      4253<sup>W</sup>      √      —  
 .7M      4548      4280      4212<sup>W</sup>      \*

7      4220      200<sup>T</sup>      4244      4260      4253<sup>W</sup>      √      —  
 .7M      4548      4280      4212<sup>W</sup>      \*

7      4220      200<sup>T</sup>      4244      4260      4253<sup>W</sup>      √      —  
 .7M      4548      4280      4212<sup>W</sup>      \*

7      4220      200<sup>T</sup>      4244      4260      4253<sup>W</sup>      √      —  
 .7M      4548      4280      4212<sup>W</sup>      \*

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

<b>Price Range</b> Monthly in Thousand Dollars	<b>First Delivery</b> Month and Year	<b>Processor Speed</b> Complete Add Time in Microseconds	<b>Storage Cycle Time</b> in Microseconds	<b>Accumulators</b>	<b>Internal Storage</b> Capacity in Thousand Words	<b>Word Size</b>	<b>Floating-Point Precision</b>	<b>Overlap</b>	<b>Instruction Set</b> Address Size	<b>Operation Codes</b>	<b>Indirect Addressing</b>	<b>Index Registers</b>	<b>Extensiveness †</b>	<b>Time-Sharing ‡</b>
--	---	--	--	---------------------	---	------------------	---------------------------------	----------------	--	------------------------	----------------------------	------------------------	------------------------	-----------------------

### GENERAL ELECTRIC GE/PAC 4060

*	6/65	3.4	1.7 <sup>B</sup>	1	4-64	17	—	13	—	13	—	7	BDF	IM
---	------	-----	------------------	---	------	----	---	----	---	----	---	---	-----	----

B. 2.88 for memory exceeding 16K. T. See 415. W. See 412.

### HONEYWELL 200/120

1.6-4.5	2/66	69 <sup>A</sup>	3 <sup>B</sup>	1	2-32	—	—	12-18	∞	37	6	XFH	CI
---------	------	-----------------	----------------	---	------	---	---	-------	---	----	---	-----	----

A. Assumes two five-character fields. B. Per four bytes. E. Memory is organized in eight-bit characters or bytes. S. 258, 259 and 259A also

### HONEYWELL 200/200

3-10	7/64	48 <sup>A</sup>	2 <sup>B</sup>	1	4-65	—	—	12-24	∞	39	15	XF	CI
------	------	-----------------	----------------	---	------	---	---	-------	---	----	----	----	----

A, B, E, S. See 200/120. U. 214/2, 224/1, 2 and 227 reader/punch also

### HONEYWELL 200/1200

9	1/66	35 <sup>A</sup>	1.5 <sup>B</sup>	1	16-131	36	—	12-24	∞	57	15 <sup>L</sup>	ALL	XP
---	------	-----------------	------------------	---	--------	----	---	-------	---	----	-----------------	-----	----

A, B, E, S. See 200/120. L. Additional 15 optionally available. U, V. See

### HONEYWELL 200/2200

5-30	12/65	25 <sup>A</sup>	1 <sup>B</sup>	1	16-262	36	—	12-24	∞	57	15 <sup>L</sup>	ALL	XP
------	-------	-----------------	----------------	---	--------	----	---	-------	---	----	-----------------	-----	----

A, B, E, S. See 200/120. L. See 200/1200. U, V. See 200/200.

### HONEYWELL 200/4200

25	12/66	12 <sup>A</sup>	.75 <sup>B</sup>	1	65-524	36	—	12-24	∞	57	15 <sup>L</sup>	ALL	XP
----	-------	-----------------	------------------	---	--------	----	---	-------	---	----	-----------------	-----	----

A, B, E, S. See 200/120. L. See 200/1200. U, V. See 200/200.

<b>Input-Output Channels</b> Number	<b>Transfer Rate</b>	<b>Auxiliary Storage</b> Fixed Head	<b>Movable Head</b>	<b>Magnetic Tape</b>	<b>Peripheral Devices</b> Card Reader	<b>Card Punch</b>	<b>Printer</b>	<b>Paper-Tape Reader</b>	<b>Paper-Tape Punch</b>	<b>Software</b> Algebraic Compiler	<b>Monitor §</b>	<b>Business Compiler</b>
--	----------------------	--	---------------------	----------------------	--	-------------------	----------------	--------------------------	-------------------------	---------------------------------------	------------------	--------------------------

7	.8M	4220	4548	200 <sup>T</sup>	4244	4260	4253 <sup>W</sup>	4212 <sup>W</sup>	4253 <sup>W</sup>	√	*	—
---	-----	------	------	------------------	------	------	-------------------	-------------------	-------------------	---	---	---

3	1.3M	270A	256 <sup>S</sup>	204	123 <sup>U</sup>	122 <sup>V</sup>	210	214/1 <sup>U</sup>	209/2	√	GR	√
---	------	------	------------------	-----	------------------	------------------	-----	--------------------	-------	---	----	---

available. U. 223 punch and 214/2, 224/1, 2 and 227 reader/punch also available. V. 222 series also available.

4	1.3M	270A	256 <sup>S</sup>	204	223 <sup>U</sup>	222 <sup>V</sup>	210	214/1 <sup>U</sup>	209/2	√	GR	√
---	------	------	------------------	-----	------------------	------------------	-----	--------------------	-------	---	----	---

available. V. Entire 222 series available.

4	1.3M	270A	256 <sup>S</sup>	204	223 <sup>U</sup>	222 <sup>V</sup>	210	214/1 <sup>U</sup>	209/2	√	GR	√
---	------	------	------------------	-----	------------------	------------------	-----	--------------------	-------	---	----	---

200/200.

8	1.3M	270A	256 <sup>S</sup>	204	223 <sup>U</sup>	222 <sup>V</sup>	210	214/1 <sup>U</sup>	209/2	√	GR	√
---	------	------	------------------	-----	------------------	------------------	-----	--------------------	-------	---	----	---

16	1.3M	270A	256 <sup>S</sup>	204	223 <sup>U</sup>	222 <sup>V</sup>	210	214/1 <sup>U</sup>	209/2	√	GR	√
----	------	------	------------------	-----	------------------	------------------	-----	--------------------	-------	---	----	---

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, \* see Section II-B, \* information unavailable.

## CENTRAL PROCESSORS CHARACTERISTICS

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### HONEYWELL 200/8200

33-80 12/67 1.75<sup>A</sup> 2 262-1048 40 12-24 ∞ ALL  
 .75<sup>B</sup> 1a<sup>E</sup> 4 126 318 XP

A. Assumes three eight-character fields. B. Cycle time for eight characters using word processor and four characters using character processor.  
 E. Memory is organized in six-bit bytes or four-bit digits. S. See 200/

### HONEYWELL 400

6-14 12/61 111<sup>A</sup> 1 1-4 — 12 — EHL  
 9.25<sup>B</sup> 12d<sup>E</sup> 1 64 3 C

A, E. See 200/8200. B. Per four bytes or six digits. U. 423/2 punch also

### HONEYWELL 800

19-35 12/60 24<sup>A</sup> 1 4-32 40 12 1 FHL  
 6<sup>B</sup> 12d<sup>E</sup> 1 69 8<sup>L</sup> C

A, E. See 200/8200. B. Per eight bytes or 12 digits. L. For each of up

### HONEYWELL 1400

10-22 12/63 78<sup>A</sup> 1 2-32 9<sup>F</sup> 12 1 XBD  
 6.5<sup>B</sup> 12d<sup>E</sup> 1 71 3 C

A, E. See 200/8200. B, U. See 400. F. Decimal digits. X. AUTOMATH.

### HONEYWELL 1800

27-60 11/63 8<sup>A</sup> 1 8-65 40 12 1 FHL  
 2<sup>B</sup> 12d<sup>E</sup> 1 71 8<sup>L</sup> C

A, E. See 200/8200. B, L, Z. See 800. X. See 1400.

### HONEYWELL DDP-24

.9-2.4 6/63 10 2 4-32 — 14 ∞ HL  
 5 24b — 58 1<sup>L</sup> I

L. Additional two optionally available. W. ASR 33 teletype also

## CENTRAL PROCESSORS CHARACTERISTICS

**Input-Output Channels**  
 Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor \$  
 Business Compiler

34 .67M 270A 204<sup>T</sup> 223<sup>U</sup> 222<sup>V</sup> 210<sup>W</sup> √ GRT √  
 214/1<sup>U</sup> 209/2<sup>W</sup>

120. T. 804 series also available. U. 214/2, 224/1, 2, 227 and 827/1 reader/punch also available. V. 222 series and 822/3 also available. W. 809 reader and 810 punch also available.

1 2.5M — 404 427/1<sup>U</sup> 422 410 √<sup>X</sup> √  
 427/1 409 G

available. X. AUTOMATH 400. Note. System no longer marketed.

16 125K — 804 827/1 822/3 810 √<sup>X</sup> √<sup>Z</sup>  
 827/1 809 G

to eight processor states. X. See 400. Z. FACT in addition to COBOL.

1 1M — 404 427/1<sup>U</sup> 422 410 √<sup>X</sup> √  
 427/1 409 G

16 375K — 804 827/1 822/3 810 √<sup>X</sup> √<sup>Z</sup>  
 827/1 809 G

54 .1M — 40 60 64 52<sup>W</sup> √ —  
 60 50<sup>W</sup>

available. Note. System no longer marketed.

†X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, • information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

#### HONEYPWELL DDP-116

.9-2.4  
 4/65  
 3.4  
 1.7  
 2  
 1-32  
 39  
 16b  
 —  
 10  
 66  
 ∞  
 1  
 FHL  
 XAP

W. See DDP-24. Note. System no longer marketed.

#### HONEYPWELL DDP-124

1.9-5  
 1/66  
 3.5  
 1.75  
 2  
 8-32  
 23  
 24b  
 —  
 15  
 48  
 ∞  
 1<sup>L</sup>  
 FHL  
 XAP

L, W. See DDP-24.

#### HONEYPWELL DDP-224

2.5-5.8  
 3/65  
 3.8  
 1.9  
 2  
 4-64  
 23  
 24b  
 —  
 15  
 64  
 ∞  
 3  
 XBD  
 CI

W. See DDP-24. Note. Multi-processor capability available.

#### HONEYPWELL DDP-416

.4-.9  
 4/67  
 1.92  
 .96  
 1  
 4-16  
 —  
 16b  
 —  
 10  
 30  
 ∞  
 0  
 L  
 XAP

W. See DDP-24. Note. No rental price announced. Prices derived from

#### HONEYPWELL DDP-516

.6-1.2  
 10/66  
 1.92  
 .96  
 2  
 4-32  
 —  
 16b  
 —  
 10  
 88  
 ∞  
 1  
 XEF  
 XAP

W. See DDP-24. Note. See DDP-416.

#### HONEYPWELL H21, H22

\*  
 10/65  
 12<sup>A</sup>  
 6<sup>B</sup>  
 1  
 2-16  
 —  
 20b  
 —  
 14  
 24  
 1  
 1  
 HL  
 MI

A. 3.5 for H22. B. 1.75 for H22. W. ASR 33 teletype available.

**Input-Output Channels**  
 Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

1  
 1.5M  
 —  
 —  
 40  
 60  
 60  
 64  
 50<sup>W</sup>  
 —<sup>W</sup>  
 —  
 —

12  
 1.8M  
 —  
 —  
 40  
 60  
 60  
 64  
 50<sup>W</sup>  
 —<sup>W</sup>  
 √  
 —

14  
 1.8M  
 —  
 —  
 40  
 60  
 60  
 64  
 50<sup>W</sup>  
 —<sup>W</sup>  
 √  
 —

24  
 2.6M  
 —  
 —  
 404  
 60  
 —  
 7050  
 50<sup>W</sup>  
 —<sup>W</sup>  
 √  
 —

purchase price.

24  
 2.6M  
 —  
 —  
 404  
 60  
 —  
 7050  
 50<sup>W</sup>  
 —<sup>W</sup>  
 √  
 —

1  
 2.9M  
 —  
 \*  
 —  
 —  
 —  
 —  
 —<sup>W</sup>  
 —  
 —

Note. Systems no longer marketed.

†X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

### CENTRAL PROCESSORS CHARACTERISTICS

Price Range Monthly in Thousand Dollars  
 First Delivery Month and Year  
 Processor Speed Complete Add Time in Microseconds  
 Storage Cycle Time in Microseconds  
 Accumulators  
 Internal Storage Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
 Instruction Set Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
 Time-Sharing ‡

### HONEYWELL H610, H620

\* 16 1 2-16 — 14 HL  
 12/63 8 24b — 52 1 HL  
 W. See H21. Note. Systems no longer marketed.

### HUGHES H-3118

\* 3.6 1 8-32 — 15 1 HL  
 5/64 1.8 18b 3 54 24 CIM  
 W. BRPE-11 teletype available. Note. Militarized computer available

### HUGHES H-3118M

\* 3.6 1 8-131 — 17 1 BHL  
 1/66 1.8 18b 7 60 48 CIM  
 W. See H-3118. X. JOVIAL. Note. See H-3118.

### HUGHES H-3324

\* 1.8 1 16-131 — 17 1 DHL  
 3/65 1.8 24b 7 104 24 CIM  
 W. See H-3118. Note. See H-3118.

### HUGHES HM-4118

\* 2 1 4-131 — 17 1 DHL  
 3/66 1 18b 7 60 48 CIM  
 W. See H-3118. Note. See H-3118.

### IBM 360/20

1.2-3.6 206<sup>A</sup> 8 4-16 — 24 XDF  
 1/66 7.2<sup>B</sup> 1a<sup>E</sup> — 36 —<sup>L</sup>

A. Assumes two two-character fields or two 16-bit half-words. B. Per byte.  
 E. Memory is organized in eight-bit characters or two four-bit digits.  
 L. Eight general registers are used as accumulators or index registers.

### Input-Output Channels

Number  
 Transfer Rate  
 Auxiliary Storage Fixed Head  
 Movable Head  
 Magnetic Tape  
 Peripheral Devices Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
 Software Algebraic Compiler  
 Monitor \$  
 Business Compiler

2 42K \* — \* \* \* \*  
 — — — — — — — — — —

8 10M — — H3107 H3103 H3102 —<sup>w</sup> — —  
 for commercial use.

8 10M — — H3107 H3103 H3102 —<sup>w</sup> —<sup>w</sup> √<sup>x</sup> —  
 R

16 .78M — — H3107 H3103 H3102 —<sup>w</sup> √ —  
 R

8 18M — — H3107 — — —<sup>w</sup> —<sup>w</sup> √ —  
 R

1 30K — 231 2415 2501<sup>U</sup> 2203<sup>V</sup> — — √<sup>Z</sup>  
 2520<sup>U</sup> — — — — — G

U. 1442/N2 punch and 2520 and 2560 reader/punch also available.  
 V. 1403/2, 7, N1 also available. Z. REPORT GENERATOR.

### CENTRAL PROCESSORS CHARACTERISTICS

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability,  
 F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory  
 protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.



Price Range  
Monthly in  
Thousand Dollars

First Delivery  
Month and Year

Processor Speed  
Complete Add Time  
in Microseconds

Storage Cycle Time  
in Microseconds

Accumulators

Internal Storage  
Capacity in Thousand Words

Word Size

Floating-Point Precision

Overlap

Instruction Set  
Address Size

Operation Codes

Indirect Addressing

Index Registers

Extensiveness †

Time-Sharing ‡

**IBM 360/30**

2.7-20	39 <sup>A</sup>	16	8-65	56	24	—	ALL
5/65	1.5 <sup>B</sup>	1a <sup>E</sup>	—	139	— <sup>L</sup>	XAP	

A. Assumes two four-character fields or two 32-bit words. B, E. See 360/20. L. 16 general registers are used as accumulators or index registers. S. 2311 and 2314 also available. T. 2402, 2403, 2404, 2415 and 7340 also

**IBM 360/40**

5-35	11.88 <sup>A</sup>	16	16-262	56	24	—	ALL
5/65	2.5 <sup>B</sup>	1a <sup>E</sup>	—	139	— <sup>L</sup>	XAP	

A, L, S, T, U, V. See 360/30. B. Per two bytes. E. See 360/20. R. 2303

**IBM 360/44**

5-25	1.75 <sup>A</sup>	16	32-262	56 <sup>7</sup>	24	—	ALL
10/66	1.75 <sup>B</sup>	1a <sup>E</sup>	—	109	— <sup>L</sup>	XAP	

A, L, U, V. See 360/30. B. Per four bytes. E. See 360/20. S. 2311

**IBM 360/50**

14-55	4 <sup>A</sup>	16	65-262	56	24	—	ALL
9/65	2 <sup>B</sup>	1a <sup>E</sup>	—	139	— <sup>L</sup>	XAP	

A, L, S, T, U, V. See 360/30. B. See 360/44. E. See 360/20. R. See

**IBM 360/65, 67**

34-100	1.3 <sup>A</sup>	16	131-1048	56	24	—	ALL
3/66	.75 <sup>B</sup>	1a <sup>E</sup>	— <sup>G</sup>	139 <sup>J</sup>	— <sup>L</sup>	XAP <sup>N</sup>	

A, L, T, U, V. See 360/30. B. Per eight bytes. E. See 360/20. G. Overlap available on Model 67. J. 144 for Model 67. N. Paging is available

**IBM 360/75**

47-170	.8 <sup>A</sup>	16	262-1048	56	24	—	ALL
11/65	.75 <sup>B</sup>	1a <sup>E</sup>	√	139	— <sup>L</sup>	XAP	

A, L, S, T, U, V. See 360/30. B. See 360/65. E. See 360/20. R. See

## CENTRAL PROCESSORS CHARACTERISTICS

Input-Output Channels  
Number

Transfer Rate

Auxiliary Storage  
Fixed Head

Movable Head

Magnetic Tape

Peripheral Devices  
Card Reader

Card Punch

Printer

Paper-Tape Reader

Paper-Tape Punch

Software  
Algebraic Compiler

Monitor \$

Business Compiler

2	.4M	2301	2401 <sup>T</sup>	2520 <sup>U</sup>	1443	—	√	√
		2302 <sup>S</sup>		2520 <sup>U</sup>	2671		GR	

available. U. 2501 and 1442/3 readers, 1442/5 punch, and 2540 reader/punch also available. V. 1403/2, 3, 7, N1; 1404 and 1445 also available.

2	.8M	2301 <sup>R</sup>	2401 <sup>T</sup>	2520 <sup>U</sup>	1443 <sup>V</sup>	—	√	√
		2302 <sup>S</sup>		2520 <sup>U</sup>	2671		GR	

also available.

2	.5M	2301	2401 <sup>T</sup>	2520 <sup>U</sup>	1443 <sup>V</sup>	—	√	√
		2302 <sup>S</sup>		2520 <sup>U</sup>	2671		GR	

also available. T. 2402, 2403, 2404 and 2515 also available.

3	1.2M	2301 <sup>R</sup>	2401 <sup>T</sup>	2520 <sup>U</sup>	1443 <sup>V</sup>	—	√	√
		2302 <sup>S</sup>		2520 <sup>U</sup>	2671		GR	

360/40.

4	1.2M	2301	2401 <sup>T</sup>	2520 <sup>U</sup>	1443 <sup>V</sup>	—	√	√
		2302 <sup>S</sup>		2520 <sup>U</sup>	2671		GR <sup>Y</sup>	

on Model 67. R. See 360/40. Y. Time-sharing monitor available on Model 67. Note. Rental for Model 67 is \$45K-\$150K.

4	1.2M	2301 <sup>R</sup>	2401 <sup>T</sup>	2520 <sup>U</sup>	1443 <sup>V</sup>	—	√	√
		2302 <sup>S</sup>		2520 <sup>U</sup>	2671		GR	

360/40. Note. Formerly marketed as Model 70.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
**Storage Cycle Time**  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### IBM 360/90

125-250 .18<sup>A</sup> 16 512-1024<sup>D</sup> 56 24 — ALL  
 2/67 .75<sup>B</sup> 1a<sup>E</sup> √ 139 —<sup>L</sup> XAP

A, L, S, T, U, V. See 360/30. B. See 360/65. D. Up to 16M characters additional memory with eight-microsecond cycle time is available.

### IBM 1130

.6-1.6 8 \* 4-8 — 13 1 H  
 9/65 3.6 16<sup>b</sup> — 31 3 3 I

S. Optional drive, similar to 2310, incorporated as part of CPU. U. Models

### IBM 1401

1.9-12 402<sup>A</sup> — 4-16 — 14 — BEH  
 9/60 11.5<sup>B</sup> 1a<sup>E</sup> — 70 3 3 I

A. Assumes two five-character fields. B. See 360/20. E. Memory is organized in six-bit characters or bytes. S. Models 1 and 2; 1311 also

### IBM 1410

6-32 88<sup>A</sup> — 10-80 — 17 — BEH  
 11/61 4.5<sup>B</sup> 1a<sup>E</sup> \* \* 15 I

A, E. See 1401. B. See 360/20. S. Models 1 and 2; 1311, 2302 and 1405/1, 2 also available. T. 729/2, 4, 5, 6 and 7340 also available.

### IBM 1440

1.5-4.5 244<sup>A</sup> — 2-16 — 14 — BEH  
 11/63 11.1<sup>B</sup> 1a<sup>E</sup> — 63 3 3 I

A, E. See 1401. B. See 360/20. S. 1301/11, 12, 21, 22 also available. U. Models 1 and 2; 1442/4 reader and 1444 punch also available. V. 1443

### IBM 1460

3.5-16 228<sup>A</sup> — 8-16 — 14 — BEH  
 10/63 6<sup>B</sup> 1a<sup>E</sup> — 70 3 3 I

A, E. See 1401. B. See 360/20. S. 1301/1, 2 also available. T. See 1410. V. Models 2 and 3; 1445 also available. Note. System no longer

### Input-Output Channels

Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Moveable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

6 1.2M 2301<sup>R</sup> 2401<sup>T</sup> 2520<sup>U</sup> 1443<sup>V</sup> — √ √  
 2302<sup>S</sup> 2520<sup>U</sup> 2671 GR

E. See 360/20. R. See 360/40. Note. System will be built to meet user's requirements.

\* — — 1442<sup>U</sup> 1132 1055 √ —  
 \* —<sup>S</sup> 1442<sup>U</sup> 1134<sup>W</sup> —

6 and 7. W. Models 1 and 2.

1 \* — 7330<sup>T</sup> 1402 1403<sup>V</sup> 1012 √ √  
 1405<sup>S</sup> 1402 1011 —

available. T. 729/2, 4, 5, and 7340 also available. V. 1404 and 1405 also available. Note. System no longer marketed.

1 \* — 7330<sup>T</sup> 1402<sup>U</sup> 1403 — √ √  
 1301<sup>S</sup> 1402 1011 \*

U. 1442 reader also available. Note. System no longer marketed.

\* \* — 7335 1442<sup>U</sup> 1403<sup>V</sup> 1012 √ √  
 1311<sup>S</sup> 1442<sup>U</sup> 1011 \*

and 1445 also available. Note. System no longer marketed.

2 \* — 7330<sup>T</sup> 1402 1403<sup>V</sup> 1012 √ √  
 1311<sup>S</sup> 1402 1011 \*

marketed.

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

## CENTRAL PROCESSORS CHARACTERISTICS

Price Range Monthly in Thousand Dollars  
 First Delivery Month and Year  
 Processor Speed Complete Add Time in Microseconds  
 Storage Cycle Time in Microseconds  
 Accumulators  
 Internal Storage Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
 Instruction Set Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
 Time-Sharing ‡

#### IBM 1620 I, II

1.6-5 560<sup>A</sup> — 20-60 100<sup>F</sup> 16 8 FL  
 10/60 20<sup>B</sup> 1d<sup>E</sup> — 70 14 \*

A. Assumes two five-digit fields. 140 microseconds for Model II. B. Per digit. 10 microseconds for Model II. E. Memory is organized in six-bit

#### IBM 1710 I, II

\* 560<sup>A</sup> — 20-60 100<sup>F</sup> 16 8 FL  
 2/62 20<sup>B</sup> 1d<sup>E</sup> — 70 14 I

A, B, E, F. See 1620. Note. Industrial control version of 1620.

#### IBM 1800

\* 6 \* 4-32 — 15 1 H  
 2/66 2<sup>B</sup> 16b — 26 3 IM

B. Four-microsecond memory available. T. 2402 also available. U. See

#### IBM 7010

12-35 34<sup>A</sup> — 40-100 \* 17 — FH  
 10/63 2.4<sup>B</sup> 1a<sup>E</sup> 3 180 15 AIM

A, E. See 1401. B. See 360/20. S. 1301/1, 2 and 2302 also available. T. 729/2, 4, 5, 6 also available. U. See 1410. Note. System no longer

#### IBM 7040

9-36 16 1 4-32 27 15 1 XE  
 4/63 8 36b — 120 3 IM

S. Models 1 and 2; 2302 also available. T. See 7010. U. 1402 reader/

#### IBM 7044

20-55 5 1 8-32 27 15 1 XE  
 7/63 2 36b — 120 3 IM

S, U. See 7040. T. See 7010. Note. System no longer marketed.

Input-Output Channels  
 Number

Transfer Rate

Auxiliary Storage  
 Fixed Head

Movable Head

Magnetic Tape

Peripheral Devices  
 Card Reader

Card Punch

Printer

Paper-Tape Reader

Paper-Tape Punch

Software  
 Algebraic Compiler

Monitor §

Business Compiler

1 \* — 1311 — 1622 1443 1621 ✓ —  
 1622 1621 G  
 digits. F. Decimal digits. Note. System no longer marketed.

\* \* — — 1622 1403 1621 \* —  
 1622 1621 \*

3 \* — 2401<sup>T</sup> 1442<sup>U</sup> 1443 1055 \* —  
 5M 2310 1442<sup>U</sup> 1054 \* —  
 1130.

4 \* — 7330<sup>T</sup> 1402<sup>U</sup> 1403 — ✓ ✓  
 1311<sup>S</sup> 1402 1011 \* \*

5 \* — 7330<sup>T</sup> 1622<sup>U</sup> 1403 — ✓ ✓  
 1301<sup>S</sup> 1622<sup>U</sup> — G  
 punch also available. Note. System no longer marketed.

5 \* — 7330<sup>T</sup> 1622<sup>U</sup> 1403 — ✓ ✓  
 1301<sup>S</sup> 1622<sup>U</sup> — G

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### IBM 7070

12-31 6/60 60<sup>A</sup> \* 5-10 10<sup>F</sup> 14 \* \*  
 6<sup>B</sup> 6<sup>B</sup> 10d<sup>E</sup> \* 99 |

A. Assumes two ten-digit fields. B. Per ten digits. E. Memory is organized in five-bit digits. F. See 1620. T. Models 2, 4, 5 and 6.

### IBM 7072

14-32 6/62 12<sup>A</sup> \* 5-30 10<sup>F</sup> 14 \* \* \*  
 6<sup>B</sup> 6<sup>B</sup> 10d<sup>E</sup> \* 99 |

A, B, E, S. See 7070. F. See 1620. T. See 7010. U. 7500 also available.

### IBM 7074

17-36 12/61 10<sup>A</sup> \* 5-30 10<sup>F</sup> 14 \* \* \*  
 4<sup>B</sup> 10d<sup>E</sup> \* 99 |

A, B, E. See 7070. F. See 1620. S. See 7040. T. See 7010. U. See

### IBM 7080

40-73 9/61 11<sup>A</sup> 16 80-160 — 20 1 EH  
 2<sup>B</sup> 1a<sup>E</sup> 3 \* 0 |

A, E. See 1401. B. See 360/20. S. See 7040. T. See 7010. Note.

### IBM 7090

60-100 6/60 4.4 1 32 27 15 1 XB  
 2.2 36b \* 200 3 |

S. See 7040. T. See 7010. Note. System no longer marketed.

### IBM 7094 I

66-106 9/62 4 1 32 27 15 1 XB  
 2 36b 2 200 7 |

S. See 7040. T. See 7010. Note. System no longer marketed.

## CENTRAL PROCESSORS CHARACTERISTICS

**Input-Output Channels**  
 Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

2 \* — 1301<sup>S</sup> 729<sup>T</sup> 7500 7400 — √ √  
 7550 1011 G

S. Models 1 and 2. Note. System no longer marketed.

2 \* — 1301<sup>S</sup> 7330<sup>T</sup> 7501<sup>U</sup> 7400 — √ √  
 7550 1011 G

Note. System no longer marketed.

2 \* — 1301<sup>S</sup> 7340<sup>T</sup> 7501<sup>U</sup> 7440 — √ √  
 7550 1011 G

7072. Note. System no longer marketed.

4 \* — 1301<sup>S</sup> 7340<sup>T</sup> 7502 716 — √ √  
 721 1011 G

System no longer marketed.

8 \* — 1301<sup>S</sup> 7340<sup>T</sup> 711 716 — √ √  
 721 1011 G

8 \* — 1301<sup>S</sup> 7340<sup>T</sup> 711 716 — √ √  
 721 1011 G

†X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating point instructions, H - hardware multiply-divide, L - logical operations.

‡X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
**Storage Cycle Time**  
 in Microseconds  
**Accumulators**  
**Internal Storage**  
 Capacity in Thousand Words  
**Word Size**  
**Floating-Point Precision**  
**Overlap**  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### IBM 7094 II

72-131	4/64	2.8	1	32	27	15b	1	XB	
			1.4		36b	2	200	7	I

S. See 7040. T. See 7010. Note. System no longer marketed.

### IBM 7700

*	3/64	6	1	16-49	—	18	1	HL	
			2		18b	*	34	3	I

T. See 7010. U. See 1130.

### MONROE MONROBOT XI

.7-1.3	5/60	6000	1	1-2 <sup>D</sup>	—	11	—	BH	
			12000		32b	—	27	0	—

D. Internal storage is drum.

### NCR 315

3.8-30	1/62	48 <sup>A</sup>	1	5-40	—	13	1	BEH	
			6 <sup>B</sup>		2a <sup>E</sup>	—	150	32	I

A. Add time assumes two six-character fields. B. Per two bytes. E. Memory is organized into slabs of two six-bit characters or three four-bit digits.

### NCR 315/100

2.2-9.5	11/64	48 <sup>A</sup>	1	5-20	—	13	1	BEH	
			6 <sup>B</sup>		2a <sup>E</sup>	—	150	32	I

A, B, E, P, T, U. See 315.

### NCR 315/RMC-501

9-50	7/65	6.5 <sup>A</sup>	1	20-40	12 <sup>F</sup>	13	1	ALL	
			8 <sup>B</sup>		2a <sup>E</sup>	—	150	32	CI

A, B, E, P, T. See 315. F. Decimal digits. U. Model 101 only.

**Input-Output Channels**  
 Number  
**Transfer Rate**  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

8	*	—	1301 <sup>S</sup>	7340 <sup>T</sup>	711	716	721	1011	—	√	G	√
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2	*	—	—	7330 <sup>T</sup>	1442 <sup>U</sup>	—	1442 <sup>U</sup>	—	—	*	*	—
---	---	---	---	-------------------	-------------------	---	-------------------	---	---	---	---	---

4	*	—	—	—	*	—	*	—	—	—	—	—
---	---	---	---	---	---	---	---	---	---	---	---	---

— <sup>P</sup>	120K	—	353	332 <sup>T</sup>	380 <sup>U</sup>	340	376 <sup>U</sup>	361	371	√	G	√
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P. Simultaneity unit attachable for input/output. T. 333 and 334 also available. U. 376/7, 8 reader/punches also available.

— <sup>P</sup>	120K	—	353	332 <sup>T</sup>	380 <sup>U</sup>	340	376 <sup>U</sup>	361	371	√	G	√
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— <sup>P</sup>	120K	—	353	332 <sup>T</sup>	380	340	376 <sup>U</sup>	361	371	√	G	√
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† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision	Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
<b>NCR 315/RMC-502</b>														
9-50	5/67	6.5 <sup>A</sup>	.8 <sup>B</sup>	1	20-80	12 <sup>F</sup>	—	—	13	1	150	32	ALL	XP
A, B, E, T, U. See 315. F. See 315/RMC-501.														

<b>NCR 390</b>														
1.4-1.9	5/61	11300 <sup>A</sup>	1200 <sup>B</sup>	1	.2	—	—	—	12	—	—	—	—	—
A. Assumes two five-digit fields. B. Per 12 digits. E. Memory is or-														

<b>NCR 500</b>														
.76-2.5	9/65	10260 <sup>A</sup>	1000 <sup>B</sup>	1	.2-.4	—	—	—	12	—	—	—	—	—
A, B, E. See 390. W. 562 and 563 readers and 572 punch also available.														

<b>PACIFIC DATA PDS 1020</b>														
.45-.52	2/64	2300 <sup>A</sup>	2300 <sup>B</sup>	1	2-4 <sup>D</sup>	—	—	—	12	—	—	DHL	—	—
A. Assumes two four-digit fields. B. Per four digits. D. Internal														

<b>PHILCO 102</b>														
6-10	11/65	4.5	1.5	2	16-65	—	—	—	18	∞	7	—	—	IM
P. Up to 84 full-duplex lines can be accommodated. Note. Formerly														

<b>PHILCO 1000</b>														
4-15	6/63	39 <sup>A</sup>	1.5 <sup>B</sup>	1	8-32	—	—	—	15	—	—	—	—	—
A. Assumes two four-character fields. B. Per byte. E. Memory is or-														

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
8	120K	—	353	332 <sup>T</sup>	380 <sup>U</sup>	340	376 <sup>V</sup>	361	371	√	√
2	.8K	—	—	—	—	340	—	361	371	—	—
gized in four-bit digits.											
2	1K	—	—	—	581	541	577	561 <sup>W</sup>	571 <sup>W</sup>	—	—
1	*	—	—	—	—	—	—	*	*	—	—
storage is delay line. E. Memory is organized in four-bit digits.											
6 <sup>P</sup>	200K	*	*	*	*	*	*	*	*	√	√
marketed as Philco CPS.											
8	2.4M	*	*	*	*	*	*	*	*	√	√
ganzed in six-bit characters or bytes.											

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
§ G - batch, R - real-time, T - time-sharing.  
— none, \* see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars  
 First Delivery Month and Year  
 Processor Speed Complete Add Time in Microseconds  
 Storage Cycle Time in Microseconds  
 Accumulators  
 Internal Storage Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
 Instruction Set Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
 Time-Sharing ‡

#### PHILCO 2000/210

20-60	11/58	15	3	8-32	35	16	1	XDE
			10	48b	1	250	8	I

T. 137 also available. U. 156 reader and 165 punch also available.  
 V. 151 also available. W. 141 reader and ASR 35 teletype also available.

#### PHILCO 2000/211

24-66	3/60	6.2	3	8-32	35	16	1	XDE
			10	48b	1	250	8	I

T, U, V, W, X. See 2000/210.

#### PHILCO 2000/212

45-120	2/63	.6	3	32-65	35	16	∞	XDE
			1.5	48b	1	250	8	I

T, U, V, W, X. See 2000/210.

#### PHILCO 2000/213

55-180	—	.55 <sup>A</sup>	3	32-2000 <sup>D</sup>	35	16	∞	XDE
			1.15	48b	—	250	8	IM

A. Four-level instruction look-ahead. D. Multi-processor system permits four main processors to access large common core storage simultaneously.

#### RAYTHEON 250

1-6	12/60	24	3	1-16 <sup>D</sup>	—	14	—	DHL
			3070	22b	—	51	1	—

D. Internal storage is magnetostrictive delay line. 16 words of 12-microsecond cycle time included. W. ASR 33 teletype available. X. ALTRAN

#### RAYTHEON 440

1.6-9	3/64	1 <sup>A</sup>	6	4-32 <sup>D</sup>	—	15	— <sup>K</sup>	HL
			2	24b	√	60 <sup>J</sup>	7 <sup>L</sup>	I

A. Variable from one to 11 microseconds. D. 256 to 2048 words of non-destructive BIAx memory available. 256 words standard. J. Instruction repertoire described by programmer macro-instructions. K, L. Index

#### Input-Output Channels

Number

Transfer Rate

Auxiliary Storage  
Fixed Head

Movable Head

Magnetic Tape

Peripheral Devices  
Card Reader

Card Punch

Printer

Paper-Tape Reader

Paper-Tape Punch

Software

Algebraic Compiler

Monitor §

Business Compiler

8	6M	272	315	234 <sup>T</sup>	258 <sup>U</sup>	256 <sup>V</sup>	240 <sup>W</sup> * <sup>W</sup>	√ <sup>X</sup>	R	√
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X. ALTAC in addition to FORTRAN.

8	6M	272	315	234 <sup>T</sup>	258 <sup>U</sup>	256 <sup>V</sup>	240 <sup>W</sup> * <sup>W</sup>	√ <sup>X</sup>	R	√
---	----	-----	-----	------------------	------------------	------------------	---------------------------------	----------------	---	---

8	56M	272	315	234 <sup>T</sup>	258 <sup>U</sup>	256 <sup>V</sup>	240 <sup>W</sup> * <sup>W</sup>	√ <sup>X</sup>	R	√
---	-----	-----	-----	------------------	------------------	------------------	---------------------------------	----------------	---	---

8	56M	272	315	334 <sup>T</sup>	258 <sup>U</sup>	256 <sup>V</sup>	240 <sup>W</sup> * <sup>W</sup>	√ <sup>X</sup>	R	√
---	-----	-----	-----	------------------	------------------	------------------	---------------------------------	----------------	---	---

T, U, V, W, X. See 2000/210. Note. System will be built to meet user's requirements.

4	*	—	—	*	*	*	* <sup>W</sup>	√ <sup>X</sup>	—	√
---	---	---	---	---	---	---	----------------	----------------	---	---

and NELIAC in addition to FORTRAN.

4	6M	—	—	*	*	*	* <sup>W</sup>	√	—	—
---	----	---	---	---	---	---	----------------	---	---	---

registers and indirect addressing available through micro-command portion of stored logic. W. See 250. Note. System no longer marketed.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch. R - real-time, † - time-sharing.

— none, \* see Section II-B, \* information unavailable.

#### CENTRAL PROCESSORS CHARACTERISTICS

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
**Storage Cycle Time**  
 in Microseconds  
**Accumulators**  
**Internal Storage**  
 Capacity in Thousand Words  
**Word Size**  
**Floating-Point Precision**  
**Overlap**  
**Instruction Set**  
 Address Size  
**Operation Codes**  
**Indirect Addressing**  
**Index Registers**  
**Extensiveness †**  
**Time-Sharing ‡**

### RAYTHEON 520

2-11 1<sup>A</sup> 7 4-32<sup>D</sup> 24 15 —<sup>K</sup> BHL  
 10/65 1<sup>B</sup> 24b — 62 7 XAP

A. Variable from one to five microseconds. B. Two-microsecond memory

### RCA SPECTRA 70/15

2.4-6.7 56<sup>A</sup> — 4-8 — 16 — BL  
 10/65 2<sup>B</sup> 1a<sup>E</sup> — 26 0 I

A. Assumes two five-character fields. B. Per byte. E. Memory is organized in eight-bit characters or bytes. T. 70/442 and 70/445 also

### RCA SPECTRA 70/25

4-12 33<sup>A</sup> 15 16-65 — 16 — XDF  
 12/65 1.5<sup>B</sup> 1a<sup>E</sup> — 31 15 CI

A, E, T, U, V, W. See Spectra 70/15. B. Per two bytes. P. Plus one

### RCA SPECTRA 70/35

3-25 23.08<sup>A</sup> 16<sup>C</sup> 16-65 56 16 — ALL  
 10/66 1.44<sup>B</sup> 1a<sup>E</sup> — 144 43 XAP

A. Assumes two four-character fields. B, P. See Spectra 70/25. C. For

### RCA SPECTRA 70/45

8-30 9.6<sup>A</sup> 16<sup>C</sup> 16-262 56 16 — ALL  
 7/66 1.44<sup>B</sup> 1a<sup>E</sup> — 144 43 XAP

A, C. See Spectra 70/35. B, P. See Spectra 70/25. E, T, U, V, W. See

### RCA SPECTRA 70/55

14-60 2.58<sup>A</sup> 16<sup>C</sup> 65-524 56 16 — ALL  
 7/66 .84<sup>B</sup> 1a<sup>E</sup> — 144 43 XAP

A, C. See Spectra 70/35. B. Per four bytes. E, T, U, V, W. See

**Input-Output Channels**

Number

Transfer Rate

**Auxiliary Storage**

Fixed Head

Movable Head

**Magnetic Tape**

**Peripheral Devices**

Card Reader

Card Punch

Printer

Paper-Tape Reader

Paper-Tape Punch

**Software**

Algebraic Compiler

Monitor \$

Business Compiler

4 560K — \* \* \* \* —<sup>W</sup> √ —  
 available. D, K, L. See 440. W. See 250.

6 \* — 70/432<sup>T</sup> 70/237 70/242<sup>V</sup> 70/221 — √  
 70/234<sup>U</sup> 70/221<sup>W</sup> —  
 available. U. 70/236 punch also available. V. 70/243 and 70/248 also  
 available. W. 70/224 reader also available.

8<sup>P</sup> — 70/432<sup>T</sup> 70/237 70/242<sup>V</sup> 70/221 —  
 .55M — 70/234<sup>U</sup> 70/221<sup>W</sup> — √  
 multiplexer of eight trunks.

2<sup>P</sup> 70/565 70/432<sup>T</sup> 70/237 70/242<sup>V</sup> 70/221 √ √  
 .8M 70/564 70/234<sup>U</sup> 70/221<sup>W</sup> —  
 each of up to four processor states. E, T, U, V, W. See Spectra 70/15.

3<sup>P</sup> 70/565 70/432<sup>T</sup> 70/237 70/242<sup>V</sup> 70/221 √ √  
 .52M 70/564 70/234<sup>U</sup> 70/221<sup>W</sup> —  
 Spectra 70/15.

6<sup>P</sup> 70/565 70/432<sup>T</sup> 70/237 70/242<sup>V</sup> 70/221 √ √  
 .75M 70/564 70/234<sup>U</sup> 70/221<sup>W</sup> —  
 Spectra 70/15. P. See Spectra 70/25.

† X — all except; B — byte manipulation, D — double precision, E — translate-edit capability.

F — floating-point instructions, H — hardware multiply-divide, L — logical operations.

‡ X — all except; A — base address relocation, C — clock, I — program interrupt, M — memory

protection, P — dynamic page relocation, S — supervisor mode.

§ G — batch, R — real-time, T — time-sharing.

— none, \* see Section II-B, \* information unavailable.

## CENTRAL PROCESSORS CHARACTERISTICS



**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

**RCA 301**  
 3.3-25  
 2/61 98<sup>A</sup> — 10-40 8<sup>F</sup> 4<sup>H</sup> ∞ XD  
 1a<sup>E</sup> — 46 3<sup>L</sup> —

A. Assumes two eight-character fields. Higher speeds available. B. See Spectra 70/25. E. Memory is organized in six-bit characters or bytes. F. H. Decimal digits. L. On Models 354 and 355 only. T. 581 and

**RCA 501**  
 11-26  
 11/59 360<sup>A</sup> 5 16-262 — 12 — XEF  
 15<sup>B</sup> 1a<sup>E</sup> — 50 7 —

A. See Spectra 70/15. B. See Spectra 70/55. E. See 301. T. 582 also available. W. 513 punch also available. Note. System no longer

**RCA 3301**  
 9-40  
 7/64 27.5<sup>A</sup> — 40-320 8<sup>F</sup> 4<sup>H</sup> ∞ XD  
 1.5<sup>B</sup> 1a<sup>E</sup> — 62 3 CI

A. See Spectra 70/15. B. See Spectra 70/25. E, F, H, T. See 301.

**SCIENTIFIC CONTROL 650**  
 4-9  
 4/66 4 1 4-32 — 6 1 HL  
 2 12b — 16 1 I

T. 6410, 6420 and 6425 also available. U. 5940 reader also available.

**SCIENTIFIC CONTROL 655**  
 7.5-13  
 6/66 3.75 1 4-32 — 15 ∞ FHL  
 1.75 24b — 128 1 CIM

T, W. See 650. U. 6940 reader also available. V. 6520, 6540 and 6550

**SCIENTIFIC CONTROL 650/2, 670/2**  
 1.6-2.5  
 11/65 4 1 4-32 — 15 ∞ FHL  
 2 24b — 128 1 CIM

T, W. See 650. U, V. See 655.

**Input-Output Channels**  
 Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

2 \* — — 382<sup>T</sup> 329 333<sup>V</sup> 321<sup>W</sup> ✓ ✓  
 334 321<sup>W</sup> — —  
 582 also available. V. 335 also available. W. 322 reader and 331 and 332 punches also available.

4 \* — — 581<sup>T</sup> 528 533 512<sup>W</sup> — ✓  
 538 — — —  
 marketed.

3 .47M — — 681<sup>T</sup> 329 335 331 ✓ ✓  
 3436 322 — —

3 300K — 5625 5415<sup>T</sup> 5930<sup>U</sup> 5510<sup>V</sup> 5220<sup>W</sup> ✓ —  
 5955 5210 — —  
 V. 5520, 5540 and 5550 also available. W. ASR 33 teletype also available.

3 570K 6625 6415<sup>T</sup> 6930<sup>U</sup> 6510<sup>V</sup> 6220<sup>W</sup> — —  
 6955 6210 — —  
 also available.

3 .5M 6625 6415<sup>T</sup> 6930<sup>U</sup> 6510<sup>V</sup> 6220<sup>W</sup> ✓ —  
 6955 6210 — —

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### SCIENTIFIC CONTROL 660/5

.7-1 10 1 4-32 — 15 FHL  
 11/65 5 24b — 128 8 1 CIM

T, W. See 650. U, V. See 655.

### SCIENTIFIC CONTROL 6700

10-17.5 3.5 1<sup>C</sup> 4-131 39 14 XDE  
 9/67 1.75 24b 4<sup>G</sup> 128 8 1 XP

C. Per processor state. G. Per memory module.

### SCIENTIFIC DATA SDS 92

1-5 3.5 1 2-32 — 15 HL  
 2/65 1.75 12b — 45 ∞ 1 CI

R. 9164 also available. U. 9153 reader also available. Note. System

### SCIENTIFIC DATA SDS 910, 920

2-6.5 16 1 4-16<sup>D</sup> — 14 HL<sup>M</sup>  
 9/62 8 24b — 60 1 CI

D. Minimum of 2K for SDS 910. M. No hardware multiply-divide on SDS 910. X. ALGOL in addition to FORTRAN. Note. Systems no

### SCIENTIFIC DATA SDS 925, 930

2-10 3.5 1 4-32<sup>D</sup> — 14 HL<sup>M</sup>  
 6/64 1.75 24b — 60 1 CI

D. Maximum of 16K for SDS 925. M. No hardware multiply-divide on SDS 925. P. Plus one data multiplexor. R. See SDS 92. U. 9152 and

### SCIENTIFIC DATA SDS 940

14-25 3.5 1 32-65<sup>D</sup> — 14 HL  
 4/66 1.75 24b 1 60 1 ALL

P, U, V. See SDS 925. R. See SDS 92. X. See SDS 910.

**Input-Output Channels**  
 Number

Transfer Rate

**Auxiliary Storage**  
 Fixed Head

Movable Head

Magnetic Tape

**Peripheral Devices**  
 Card Reader

Card Punch

Printer

Paper-Tape Reader

Paper-Tape Punch

Software

Algebraic Compiler

Monitor ‡

Business Compiler

3 .2M — 6625 6415<sup>T</sup> 6930<sup>U</sup> 6510<sup>V</sup> 6220<sup>W</sup> √ —  
 6955 6210

\* \* — \* \* \* \* \* √ —  
 \* \* \* \* \* T

2 7.2M 9367<sup>R</sup> — 9546 9152<sup>U</sup> 9171 9234 — —  
 9158 9234

no longer marketed.

4 3M 9366 — 9546 9151 9379 9234 √<sup>X</sup> √  
 9158 9234 GR

longer marketed.

8<sup>P</sup> 14M 9367<sup>R</sup> — 9546 9151<sup>U</sup> 9171<sup>V</sup> 9234 √<sup>X</sup> √  
 9158 9234 GR

9153 reader also available. V. 9379 also available. X. See SDS 910. Note. SDS 925 no longer marketed.

8<sup>P</sup> 14M 9367<sup>R</sup> — 9546 9151<sup>U</sup> 9171<sup>V</sup> 9234 √<sup>X</sup> √  
 9158 9234 GT

†X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing. — none, ☆ see Section II-B, \* information unavailable.

## CENTRAL PROCESSORS CHARACTERISTICS

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

**SCIENTIFIC DATA SDS 9300**

3-15 12/64 1.75 1 4-32 39 15 8 XBE  
 24b √ 60 3 CIM  
 P, U, V. See SDS 925. R. See SDS 92. X. See SDS 910.

**SCIENTIFIC DATA SIGMA 2**

.9-7.1 12/66 2.25 1 4-65 — 16 1 HL  
 .9 16b — 25 2 XP  
 T. 7323, 7361 and 7371 also available. U. 7140 reader also available.

**SCIENTIFIC DATA SIGMA 5**

2.5-10 8/67 2.4 16<sup>c</sup> 4-131 56 17 1 ALL  
 .85 32b 3 93 7 XP  
 C. Expandable to 256. R. 7211 also available. T, U, V. See Sigma 2.

**SCIENTIFIC DATA SIGMA 7**

5-20 12/66 1.7 16<sup>c</sup> 4-131<sup>d</sup> 56 17 1 ALL  
 .85 32b 3 120 7<sup>l</sup> ALL  
 C, L. Per 4000 words of memory. R. See Sigma 5. T, U, V. See Sigma 2.

**SEL 810A**

.5-2.5 7/65 3.5 2 4-32 — 9 ∞ HL  
 1.75 16b — 57 1 XAP  
 U. 80/450A reader also available. W. BRPE teletype available.

**SEL 840A, 840MP**

1.1-5 7/65 3.5 2<sup>c</sup> 4-32 37 15 ∞ XBE  
 1.75 24b — 91 1<sup>l</sup> XAP  
 C. Two additional 48-bit accumulators optionally available. L. Additional two optionally available. U, W. See 810A. Note. 3-16K monthly

**CENTRAL PROCESSORS CHARACTERISTICS**

**Input-Output Channels**  
 Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

8<sup>p</sup> 14M 9367<sup>R</sup> — 9546 9151<sup>U</sup> 9171<sup>V</sup> 9234 √<sup>x</sup> √  
 9158 9234 GR

20 5.6M 7201 — 7321<sup>T</sup> 7120<sup>U</sup> 7440<sup>V</sup> 7060 √ —  
 7160 7060 GR  
 V. 7445 also available.

32 6.9M 7201<sup>R</sup> — 7321<sup>T</sup> 7120<sup>U</sup> 7440<sup>V</sup> 7060 √ √  
 7160 7060 GR

160 5.6M 7201<sup>R</sup> — 7321<sup>T</sup> 7120<sup>U</sup> 7440<sup>V</sup> 7060 √ √  
 7160 7060 GRT

64 570K — 80/615 80/410<sup>U</sup> 80/730 —<sup>w</sup> √ —  
 80/653 80/440 80/510 —

64 570K — 80/615 80/410<sup>U</sup> 80/730 —<sup>w</sup> √ —  
 80/653 80/440 80/510 GR

rental and 6/67 delivery date for 840MP, which has been designed for multi-processing.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

<b>Price Range</b> Monthly in Thousand Dollars	<b>First Delivery</b> Month and Year	<b>Processor Speed</b> Complete Add Time in Microseconds	<b>Storage Cycle Time</b> in Microseconds	<b>Accumulators</b>	<b>Internal Storage</b> Capacity in Thousand Words	<b>Word Size</b>	<b>Floating-Point Precision</b>	<b>Overlap</b>	<b>Instruction Set</b> Address Size	<b>Operation Codes</b>	<b>Indirect Addressing</b>	<b>Index Registers</b>	<b>Extensiveness †</b>	<b>Time-Sharing ‡</b>
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### STANDARD COMPUTER IC6000/19, 29, 39

8.6-12.5	11/66	8 <sup>A</sup>	16	8 <sup>D</sup>	27	36b <sup>E</sup>	— <sup>G</sup>	15	— <sup>J</sup>	∞	7	ALL	CIS
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A. Four microseconds for Models 29 and 39. B. Two microseconds for Models 29 and 39. D. Expandable in 8K increments. E. Plus parity bit. G. Overlap exists only between main memory and unused portion of the 1K control memory. J. System allows emulation of up to 1000 different instructions at one time. V. Selectric console typewriter available.

### UNIVAC 418

4-25	9/64	4	2	2	4-65	—	10	1	EHL	XMP
					18b	—	93	8		

R. FH 880 also available. T. III A, III C and VI C also available.

### UNIVAC 490

18-55	12/61	9.6 <sup>A</sup>	4.8	*	16-65	—	15	—	7	—	IM
					30b	—	6	7			

A. 4.8 microseconds in repeat mode. R. See 418. U. Model 02 only.

### UNIVAC 491, 492

13-25	10/65	9.6	4.8	*	16-65	—	15	—	7	XBF	XP
					30b	—	6	7			

P. Eight channels are standard on 491. T. VIII C also available. V. Model

### UNIVAC 494

28-45	3/66	.75 <sup>A</sup>	.75	*	16-31	*	16	—	14	XB	XP
					30b	*	64	14			

A. Instruction look-ahead allows increased internal speed. R. FH 880

### UNIVAC 1004 I

8-1.4	9/63	112 <sup>A</sup>	8 <sup>B</sup>	1	.961 <sup>D</sup>	—	24	—	0	—	I
					1a <sup>E</sup>	—	36	0			

A. Assumes two five-character fields. B. Per byte. D. Plugboard serves as instruction storage unit. 961 additional positions of core memory avail-

<b>Input-Output Channels</b> Number	<b>Transfer Rate</b>	<b>Auxiliary Storage</b> Fixed Head	<b>Movable Head</b>	<b>Magnetic Tape</b>	<b>Peripheral Devices</b> Card Reader	<b>Card Punch</b>	<b>Printer</b>	<b>Paper-Tape Reader</b>	<b>Paper-Tape Punch</b>	<b>Software</b> Algebraic Compiler Monitor \$	<b>Business Compiler</b>
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2	90K	—	—	*	*	— <sup>V</sup>	—	—	—	— <sup>X</sup>	— <sup>Z</sup>
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X, Y, Z. Availability of software depends on system being emulated. Note. 12K-20K rental and 3/67 delivery date for Model 29, and 16K-22.5K rental and 6/67 delivery date for Model 39. Systems have been designed specifically for general-purpose emulation.

16	.2M	FH330 <sup>R</sup> FR11	11A <sup>T</sup>	1004 <sup>U</sup>	8560	606	√	√
					1004 <sup>U</sup>	903	—	—

U. Model II only.

*	*	FH432 <sup>R</sup> FR11	VIII C	711 <sup>U</sup>	755 <sup>V</sup>	USS	√	√
					—	USS	—	—

V. Model 01 only. Note. System no longer marketed.

14 <sup>P</sup>	*	FH880 FR11	VIC <sup>T</sup>	703	755 <sup>V</sup>	652	USS	USS	√	√
									GR	

05 only. Note. Systems no longer marketed.

8	.55M	FH432 <sup>R</sup> FR11	VIC <sup>T</sup>	703	755 <sup>V</sup>	652	USS	USS	√	√
									GR	

and FH 1782 also available. T, V. See 491, 492.

*	*	—	—	1004 <sup>U</sup>	1004 <sup>V</sup>	606	—	—
			UNIDISC	1004 <sup>U</sup>	902		—	—

able. E. Memory is organized in eight-bit characters or bytes. U. Models IA and IB. V. Model I only.

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

## CENTRAL PROCESSORS CHARACTERISTICS

Price Range Monthly in Thousand Dollars  
 First Delivery Month and Year  
 Processor Speed Complete Add Time in Microseconds  
 Storage Cycle Time in Microseconds  
 Accumulators  
 Internal Storage Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
 Instruction Set Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
 Time-Sharing ‡

**UNIVAC 1004 II, III**

1.3-2.8	91 <sup>A</sup>	1	.961 <sup>D</sup>	—	24	—	—	—	—
6/64	6.5 <sup>B</sup>		1a <sup>E</sup>	—	36	0			I

A, B, D, E. See 1004 I. T. Available on Model III only. U. Model II

**UNIVAC 1005 I**

1-1.6	256 <sup>A</sup>	1	2-4	—	24	—	B		
2/66	8 <sup>B</sup>		1a <sup>E</sup>	—	36	0			I

A, B, E, U, V. See 1004 I.

**UNIVAC 1005 II, III**

1.6-2.9	208 <sup>A</sup>	1	2-4	—	24	1	B		
2/66	6.5 <sup>B</sup>		1a <sup>E</sup>	—	36	0			I

A, B, E, U, V. See 1004 II, III.

**UNIVAC 1050 III**

2.4-14.5	117 <sup>A</sup>	2	4-32	—	15	—	XDF		
9/63	4.5 <sup>B</sup>		1a <sup>E</sup>	—	50	7			I

A, B. See 1004 I. E. Memory is organized in six-bit characters or bytes.

**UNIVAC 1107**

32-80	4 <sup>A</sup>	*	32-65	—	18	∞	B		
9/62	4		36b	*	152	15	IM		

A. Thin-film memory allows increased internal speed. T. See 418. X. AL-

**UNIVAC 1108 II**

45-150	.75		62-262 <sup>☆</sup>	*	18	∞	XE		
8/65	.75		36b		152	15	XP		

P. 16 channels also available. R. See 494. T. See 491. X. See 1107.

Input-Output Channels Number  
 Transfer Rate  
 Auxiliary Storage Fixed Head  
 Movable Head  
 Magnetic Tape  
 Peripheral Devices Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
 Software Algebraic Compiler  
 Monitor §  
 Business Compiler

*	*	—	VIC <sup>T</sup>	1004 <sup>U</sup>	1004 <sup>V</sup>	606	—	—
			UNIDISC	1004 <sup>U</sup>	902			

only. V. Model III only.

*	*	—	—	1004 <sup>U</sup>	1004 <sup>V</sup>	606	—	—
			UNIDISC	1004 <sup>U</sup>	902			

*	*	—	VIC	1004 <sup>U</sup>	1004 <sup>V</sup>	606	—	—
			UNIDISC	1004 <sup>U</sup>	902			

8	—	—	IIIA <sup>T</sup>	706	755	606	√	√
	.22M		FR II		600	903		GT

T. III C and VI C also available. Note. System no longer marketed.

16	*	FH880	IIA <sup>T</sup>	706	755	USS	√ <sup>x</sup>	√
		FR II			600	USS		GRT

GOL in addition to FORTRAN. Note. System no longer marketed.

8 <sup>P</sup>	1.4M	FH432 <sup>R</sup>	VIC <sup>T</sup>	706	755	USS	√ <sup>x</sup>	√
		FR II			600	USS		GRT

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply/divide, L - logical operations.  
 ‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
**Accumulators**  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### UNIVAC 9200

1-2.5      104<sup>A</sup>      \*      8-16      —      16      —      B  
 6/67      1.2<sup>B</sup>      1a<sup>E</sup>      —      35      16      I

A, B, E. See 1004 I.      V. Model 00 only.

### UNIVAC 9300

1.7-9.3      52<sup>A</sup>      \*      8-32      —      16      —      XDF  
 9/67      6<sup>B</sup>      1a<sup>E</sup>      —      35      16      I

A, B, E. See 1004 I.      U. 652 punch also available.      V. Model 02 only.

### UNIVAC SS 80/90 I, II

3.6-13      51<sup>A</sup>      \*      1.2<sup>D</sup>      —      \*      —      9<sup>L</sup>      —  
 1/60      17<sup>B</sup>      10d<sup>D</sup>      —      \*      —      I

A. Assumes two ten-digit fields.      B. Per ten digits.      D. 2.4K to 7.6K drum memory available with 3.4-millisecond cycle time.      E. Memory is organized in six-bit digits.      L. Three on Model I.      U, V. See 490.      Note. System no longer marketed.

### UNIVAC UIII

16.6      8<sup>A</sup>      19      8-32      —      10      ∞      HL  
 6/62      4<sup>B</sup>      6d<sup>E</sup>      —      61      15      XP

A. Assumes two six-digit fields.      B. Per six digits.      E. Memory is organized in four-bit digits.      T. III A and III C also available.      Note.

### WESTINGHOUSE PRODAC 50

.5-.75      18      —<sup>C</sup>      4-16<sup>D</sup>      —      8      1      L  
 8/64      4.5      14b      —      26      0      CIS

C. Any memory address may be used as an accumulator.      D. Up to 64K words of storage available in the form of bulk core.      W. ASR 35 teletype

### WESTINGHOUSE PRODAC 250

1.25      2.25      1      4-65      —      16      1      HL  
 9/67      .9<sup>B</sup>      16b      —      25      2      XP

B. 1.1 for memory beyond 16K.      Note. A version of the Scientific Data

**Input-Output Channels**  
 Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

1      85K      —      —      711      603      3030<sup>V</sup>      —      —      —

1      85K      —      VIC      711      603<sup>U</sup>      3030<sup>V</sup>      —      —      —

\*      \*      —      IIA      711<sup>U</sup>      —      755<sup>V</sup>      \*      √      √

ized in six-bit digits.      L. Three on Model I.      U, V. See 490.      Note. System no longer marketed.

12      .2M      FH880      IIA<sup>T</sup>      703      652      752      901      901      √      √  
 GR

System no longer marketed.

64      420K      \*      —      \*      \*      \*      \*      —<sup>W</sup>      —      —

also available.

20      5.6M      \*      —      \*      \*      \*      \*      —      √      —  
 GR

Sigma 2.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

## CENTRAL PROCESSORS CHARACTERISTICS

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
<b>WESTINGHOUSE PRODAC 500</b>													
2.25	6/63	4	2	1	4-32	—	—	12	1	92	1	EHL	CIS

W. See Prodac 50.

### Denmark

<b>REGNECENTRALEN GIER</b>													
3-7.5	12/61	49	6.6	*	1 <sup>D</sup>	√	*	*	√	—	—	F	—
					40b	*	*	*	—	—	—	—	—

D. 4K core storage available as secondary storage. L. Each word of memory can be used as an index register. R, S. Indicates transfer rate in

### England

<b>EELM 4/10</b>													
1.8-5.8	1/67	22.5 <sup>A</sup>	1.5 <sup>B</sup>	—	8-32	—	—	12	—	—	—	XDF	—
					1a <sup>E</sup>	—	—	24	—	—	—	—	—

A. Assumes two four-character fields. B. Per two bytes. E. Memory is organized in eight-bit characters or bytes. S. 4425 also available. T. 4450, 4452 and 4454 also available. U. 4512, 4513 and 4515 readers and 4520

<b>EELM 4/30</b>													
4-13.1	3/67	22.5 <sup>A</sup>	1.5 <sup>B</sup>	16	16-65	—	—	12	—	—	—	XDF	—
					1a <sup>E</sup>	—	—	41	—	16	—	—	—

A, B, E, S, T, U, V, W, X, Z. See 4/10.

<b>EELM 4/50</b>													
8.2-26.2	9/67	8.9 <sup>A</sup>	1.4 <sup>B</sup>	16	16-262	24	—	12	—	—	—	ALL	—
					1a <sup>E</sup>	—	—	*	—	16	—	IM	—

A, B, E, S, T, U, V, W, X, Z. See 4/10.

### CENTRAL PROCESSORS CHARACTERISTICS

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
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192	2.25M	*	—	*	*	*	*	— <sup>W</sup>	—	—	—
-----	-------	---	---	---	---	---	---	----------------	---	---	---

*	*	14 <sup>R</sup>	93.3 <sup>S</sup>	GIER	—	—	GIER	—	—	√ <sup>X</sup>	—
							2000			*	

thousands of characters per second. Model numbers not yet available. X. ALGOL '60.

8	*	4430	4440 <sup>S</sup>	4453 <sup>T</sup>	4514 <sup>U</sup>	4521 <sup>U</sup>	4554 <sup>V</sup>	4585	4580 <sup>W</sup>	√ <sup>X</sup>	√ <sup>Z</sup>
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and 4522 punches also available. V. 4555, 4560 and 4561 also available. W. 4581 reader also available. X. ALGOL in addition to FORTRAN. Z. CLEO in addition to COBOL.

8	*	4430	4440 <sup>S</sup>	4453 <sup>T</sup>	4574 <sup>U</sup>	4521 <sup>U</sup>	4554 <sup>V</sup>	4585	4580 <sup>W</sup>	√ <sup>X</sup>	√ <sup>Z</sup>
---	---	------	-------------------	-------------------	-------------------	-------------------	-------------------	------	-------------------	----------------	----------------

4	*	4430	4440 <sup>S</sup>	4453 <sup>T</sup>	4574 <sup>U</sup>	4521 <sup>U</sup>	4554 <sup>V</sup>	4585	4580 <sup>W</sup>	√ <sup>X</sup>	√ <sup>Z</sup>
---	---	------	-------------------	-------------------	-------------------	-------------------	-------------------	------	-------------------	----------------	----------------

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Acid Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### EELM 4/70, 4/75

10.2-30      1.9<sup>A</sup>      16      65-1048    24      12      —      ALL  
                  12/67      1<sup>B</sup>      1a<sup>E</sup>      √      \*      16      IM

A, E, S, T, U, V, W, X, Z. See 4/10.      B. Per four bytes.

### EELM KDF 7

1.5-6      36      4      4-32      —      15      1      —  
                  /65      6      24b      —      64      5      I

Note. System designed for process control.

### EELM KDF 9

10-35      1<sup>A</sup>      3      4-32      —      6      1      F  
                  4/63      6      48b      —      155      60      IM

A. Instruction look-ahead allows increased internal speed.      S, U, W. Model numbers not yet available. Characteristics listed in appropriate sections

### EELM LEO 326

14-35      5<sup>A</sup>      1      4-32      —      13      1      BF  
                  6/65      2.5      42b      2      97      12      IM

T. Model numbers not yet available. Characteristics listed in appropriate

### EELM LEO 360

11-27      12      1      4-32      —      13      1      BF  
                  12/64      6      42b      2      97      12      IM

T, X, Z. See Leo 326.

### ELLIOTT 903

7-4.5      23      1      8-65      —      13      —      —  
                  10/65      6      18b      —      25      4      I

T, W. Model numbers not yet available. Characteristics listed in appropriate sections under these code symbols.      X. ALGOL '60 in addition to FOR-

**Input-Output Channels**

Number      Transfer Rate  
**Auxiliary Storage**  
 Fixed Head      Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader      Card Punch      Printer      Paper-Tape Reader      Paper-Tape Punch  
**Software**  
 Algebraic Compiler      Monitor \$      Business Compiler

4      \*      4430      4440<sup>S</sup>      4453<sup>T</sup>      4574<sup>U</sup>      4554<sup>V</sup>      4585      √<sup>X</sup>      √<sup>Z</sup>  
                                                4521<sup>U</sup>      4580<sup>W</sup>      T

32      \*      —      —      —      —      —      WESTREX —  
                                                          WESTREX      R

16      —      1081<sup>T</sup>      CD1<sup>U</sup>      1040      PT2<sup>W</sup>      √<sup>X</sup>      —  
                  410K      MH<sup>S</sup>      CD1<sup>U</sup>      PT1<sup>W</sup>      GT

under these code symbols.      T. 1085 also available.      X. See 4/10.

14      —      MT<sup>T</sup>      \*      \*      \*      √<sup>X</sup>      √<sup>Z</sup>  
                  .35M      —      —      —      \*      GT

section under this code number.      X, Z. CLEO.

14      —      MT<sup>T</sup>      \*      \*      \*      √<sup>X</sup>      √<sup>Z</sup>  
                  .35M      —      —      —      \*      GT

300      —      MT1<sup>T</sup>      —      —      PT1<sup>W</sup>      √<sup>X</sup>      —  
                  \*      —      —      —      PT1<sup>W</sup>      —

TRAN.      Note. Computer formerly marketed as MCS 920.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability,  
 F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory  
 protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, \* see Section II-B, \* information unavailable.



**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### ELLIOTT 4120

1.9-6.5 4/65 5.6 2 2 8-32 — 6-15 1 B  
 42b — 270 1 I

S, T, U, V, W. Model numbers not yet available. Characteristics listed in appropriate sections under these code symbols. X. See 903. Z. LAN-

### ELLIOTT 4130

2.5-33 4/65 4.5 2 4 8-262 — 6-15 1 BF  
 42b — 270 1 IM

S, T, U, V, W, Z. See 4120. X. See 903.

### ELLIOTT MCS 920B

1.5-4.5 11/65 23 6 1 8-65 — 13 — —  
 18b — 25 4 I

T, W, X. See 903.

### GEC 90/2

.7-2.8 2/65 3.5 1.75 1 2-32 — 15 ∞ HL  
 12b — 45 1 CI

R, T. Indicates transfer rates in thousands of characters per second. Model numbers not yet available. U. Indicates speed in cards per minute. Model numbers not yet available. V. Indicates speed in lines per minute. Model

### GEC 90/25, 30

2.1-8.4 6/64 3.5 1.75 1 4-32<sup>D</sup> — 14 ∞ HL  
 24b — 60 1 CI

D. Maximum of 16K with 90/25. P. Plus one data multiplexor. R, T, U, V, W. See 90/2. X. ALGOL in addition to FORTRAN. Note.

### GEC 90/300

6.3-14 12/64 1.75 1.75 1 4-32 39 15 ∞ XBE  
 24b √ 60 3 CIM

P, X. See 90/25, 30. R, T, U, V, W. See 90/2. Note. A version of the

**Input-Output Channels**  
 Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

12 154K — MH1<sup>S</sup> MT2<sup>T</sup> CD1<sup>U</sup> LP<sup>V</sup> PT2<sup>W</sup> √<sup>X</sup> √<sup>Z</sup>  
 GUAGE H. CD1<sup>U</sup> PT2<sup>W</sup> GT

14 182K — MH1<sup>S</sup> MT2<sup>T</sup> CD1<sup>U</sup> LP<sup>V</sup> PT2<sup>W</sup> √<sup>X</sup> √<sup>Z</sup>  
 GT

300 \* — — MT1<sup>T</sup> — — — PT1<sup>W</sup> √<sup>X</sup> —

2 7.2M 560<sup>R</sup> — 1.5-96<sup>T</sup> 800<sup>U</sup> 300<sup>U</sup> 1000<sup>V</sup> 150<sup>W</sup> √ —  
 1000<sup>W</sup> — numbers not yet available. W. Indicates speed in characters per second. Model numbers not yet available. Note. A version of the Scientific Data SDS 92.

8<sup>P</sup> 14.M 560<sup>R</sup> — 1.5-96<sup>T</sup> 800<sup>U</sup> 300<sup>U</sup> 1000<sup>V</sup> 150<sup>W</sup> √<sup>X</sup> √<sup>Z</sup>  
 GR Versions of the Scientific Data SDS 925, 930.

8<sup>P</sup> 14M 560<sup>R</sup> — 1.5-96<sup>T</sup> 800<sup>U</sup> 300<sup>U</sup> 1000<sup>V</sup> 150<sup>W</sup> √<sup>X</sup> √<sup>Z</sup>  
 GR Scientific Data SDS 9300.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

## CENTRAL PROCESSORS CHARACTERISTICS



Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision	Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
<b>ICT 1905</b>														
7.3-21	12/64	7	2	8 <sup>C</sup>	8-32	37	24b	—	15	1	3	FHL	IM	
C, T. See 1904.			R. See 1903.			S, U, V, W, X, Z. See 1902.								
<b>ICT 1906</b>														
12-40	12/66	2.5 <sup>A</sup>	1 <sup>B</sup>	8 <sup>C</sup>	32-262	—	24b	—	15	1	3	HL	IM	
A. 4.5-microsecond also available.			B. Two-microsecond also available.			C, T. See 1904. P. As required. R. See 1903. S, U, V, W, X, Z. See								
<b>ICT 1907</b>														
12-40	12/66	2.5 <sup>A</sup>	1 <sup>B</sup>	8 <sup>C</sup>	32-262	37	24b	—	15	1	3	FHL	IM	
A, B, P. See 1906.			C, T. See 1904.			R. See 1903. S, U, V, W, X, Z. See								
<b>ICT 1909</b>														
4.5-6	8/65	18	6	8 <sup>C</sup>	16-32	37	24b	—	15	1	3	FHL	IM	
C, T. See 1904.			R. See 1903.			S, U, V, X, Z. See 1902. W. See 1901.								
<b>ICT ATLAS 2</b>														
70	1/64	2.5	2.5	1	32-262	—	48b	4	24	1	128	BF	IM	
X. See 1902.														
<b>ICT ORION 2</b>														
25-55	9/64	11	2	64 <sup>C</sup>	8-32	*	48b	—	36	1	98	64 <sup>L</sup>	BF	IM
C, L. Per program.			X. EMA in addition to FORTRAN.			Z. NEBULA.								

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler	Monitor §	Business Compiler
5	*	1964 <sup>R</sup>	2805 <sup>S</sup>	1974 <sup>T</sup>	1911 <sup>U</sup>	2151 <sup>U</sup>	1933 <sup>V</sup>	1925	1916 <sup>W</sup>	√ <sup>X</sup>	T	√ <sup>Z</sup>
— <sup>P</sup>												
— <sup>P</sup>	*	1964 <sup>R</sup>	2805 <sup>S</sup>	1974 <sup>T</sup>	1911 <sup>U</sup>	2151 <sup>U</sup>	1933 <sup>V</sup>	1925	1916 <sup>W</sup>	√ <sup>X</sup>	T	√ <sup>Z</sup>
1902.												
— <sup>P</sup>												
— <sup>P</sup>	*	1964 <sup>R</sup>	2805 <sup>S</sup>	1974 <sup>T</sup>	1911 <sup>U</sup>	2151 <sup>U</sup>	1933 <sup>V</sup>	1925	1916 <sup>W</sup>	√ <sup>X</sup>	T	√ <sup>Z</sup>
1902.												
5	*	1964 <sup>R</sup>	2805 <sup>S</sup>	1976 <sup>T</sup>	1911 <sup>U</sup>	2151 <sup>U</sup>	1933 <sup>V</sup>	1925	1915 <sup>W</sup>	√ <sup>X</sup>	T	√ <sup>Z</sup>
Note. System no longer marketed.												
16	90K	—	*	*	593	582A	*	*	*	√ <sup>X</sup>	GT	√
— <sup>P</sup>												
63	1.2M	*	—	*	593	582A	*	*	—	√ <sup>X</sup>	GR	√ <sup>Z</sup>

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
§ G - batch, R - real-time, T - time-sharing.  
— none, \* see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision	Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
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### France

#### BULL GE GAMMA 10

1.6-2.2	217 <sup>A</sup>	*	1-4	—	*	—	B							
/63	7 <sup>B</sup>		1a <sup>E</sup>	*	*	—	0							

A. Assumes two six-character fields. B. Per byte. E. Memory is organized in six-bit characters or bytes. U. Indicates speed in cards per minute. Model numbers not yet available. V. Indicates speed in lines per minute.

#### BULL GE GAMMA 30

5.7-11.6	217 <sup>A</sup>	*	10-40	8 <sup>F</sup>	4 <sup>H</sup>	∞	BF							
2/62	7 <sup>B</sup>		1a <sup>E</sup>	*	46	0								

A, B, E, U, V, W. See Gamma 10. F, H. Decimal digits. R, S, T. Indicates transfer rate in thousands of characters per second. Model numbers not

#### BULL GE GAMMA 30S

7.8-13	98 <sup>A</sup>	*	20-40	8 <sup>F</sup>	4 <sup>H</sup>	∞	XD							
7/63	7 <sup>B</sup>		1a <sup>E</sup>	*	46	3								

A. Assumes two eight-character fields. B, E, U, V, W. See Gamma 10.

#### BULL GE GAMMA 55

8-1.7	2200 <sup>A</sup>	*	2.5-5	—	*	—	B							
12/66	7.9 <sup>B</sup>		1a <sup>E</sup>	—	*	10	I							

A. Assumes two nine-digit fields. B, U. See Gamma 10. E. Memory

#### BULL GE GAMMA 60

25-50	200	*	8-32	*	*	√	F							
/60	10		24b	*	*	0	I							

R, T. See Gamma 30. U, V, W. See Gamma 10. X. ALGOL.

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
---------------------------------	---------------	---------------------------------	--------------	---------------	-----------------------------------	------------	---------	-------------------	------------------	---	-------------------

*	*	—	—	—	300 <sup>U</sup>	300 <sup>V</sup>	—	—	—	*	—
					300 <sup>U</sup>	300 <sup>W</sup>					

Model numbers not yet available. W. Indicates speed in characters per second. Model numbers not yet available.

2	*	128 <sup>R</sup>	66 <sup>T</sup>	600 <sup>U</sup>	1075 <sup>V</sup>	100 <sup>W</sup>	√ <sup>X</sup>	√			
		88 <sup>S</sup>		300 <sup>U</sup>	1000 <sup>W</sup>		*				

yet available. X. ALGOL in addition to FORTRAN. Note. A version of the RCA 301.

2	*	128 <sup>R</sup>	66 <sup>T</sup>	600 <sup>U</sup>	1075 <sup>V</sup>	100 <sup>W</sup>	√ <sup>X</sup>	√			
		88 <sup>S</sup>		300 <sup>U</sup>	1000 <sup>W</sup>		*				

F, H, R, S, T, X. See Gamma 30. Note. See Gamma 30.

*	*	—	—	150 <sup>U</sup>	—	—	—	—	—	—	—
				60 <sup>U</sup>							

is organized in eight-bit characters or two four-bit digits.

*	*	102 <sup>R</sup>	21 <sup>T</sup>	300 <sup>U</sup>	300 <sup>V</sup>	25 <sup>W</sup>	√ <sup>X</sup>	√			
		—		300 <sup>U</sup>	800 <sup>W</sup>		*				

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision	Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing *
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#### BULL GE GAMMA 115

1.5-4.5	3/66	119 <sup>A</sup>	6.5 <sup>B</sup>	4-16	1a <sup>E</sup>	*		*			0	B	—
---------	------	------------------	------------------	------	-----------------	---	--	---	--	--	---	---	---

A. Assumes two five-digit fields. B, U, V, W. See Gamma 10. E. See

#### BULL GE GAMMA 140

4.5-9	3/67	65 <sup>A</sup>	5.6 <sup>B</sup>	8-32	1a <sup>E</sup>	*		*			16	BF	I
-------	------	-----------------	------------------	------	-----------------	---	--	---	--	--	----	----	---

A. See Gamma 115. B. Per two bytes. E. See Gamma 55. S, T. See

#### BULL GE GAMMA 145

4.2-15	4/67	48 <sup>A</sup>	3.4 <sup>B</sup>	16-131	1a <sup>E</sup>	√		*			16	BF	IM
--------	------	-----------------	------------------	--------	-----------------	---	--	---	--	--	----	----	----

A. See Gamma 115. B. See Gamma 140. E. See Gamma 55. S, T. See

#### BULL GE GAMMA 300-MCT

4.4-6.2	10/59	865	173	.064D	12d	—	*	*			0	—	—
---------	-------	-----	-----	-------	-----	---	---	---	--	--	---	---	---

D. Internal storage is delay type. Additional storage available. T. See

#### BULL GE GAMMA 500

1.8-2.5	/61	320	160	.016	33b	—	*	*			16	—	—
---------	-----	-----	-----	------	-----	---	---	---	--	--	----	---	---

T. See Gamma 30. W. See Gamma 10. \* X. ALGOL and PAF in addi-

#### BULL GE GAMMA M40

2.4-15	6/65	8	4	4-32	24b	*	*	*	√		3	BF	IM
--------	------	---	---	------	-----	---	---	---	---	--	---	----	----

R, S, T. See Gamma 30. U, V, W. See Gamma 10. X. ALGOL and

#### Input-Output Channels

Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
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*	*	—	125 <sup>R</sup>	—	300 <sup>U</sup>	600 <sup>V</sup>	150 <sup>W</sup>	—	*	√ <sup>Z</sup>	—
---	---	---	------------------	---	------------------	------------------	------------------	---	---	----------------	---

Gamma 55. R. See Gamma 30. Z. RPG.

*	*	—	200 <sup>S</sup>	60 <sup>T</sup>	900 <sup>U</sup>	1000 <sup>V</sup>	500 <sup>W</sup>	√	*	√	—
---	---	---	------------------	-----------------	------------------	-------------------	------------------	---	---	---	---

Gamma 30. U, V, W. See Gamma 10.

*	*	—	200 <sup>S</sup>	60 <sup>T</sup>	900 <sup>U</sup>	1000 <sup>V</sup>	100 <sup>W</sup>	√	—	√	—
---	---	---	------------------	-----------------	------------------	-------------------	------------------	---	---	---	---

Gamma 30. U, V, W. See Gamma 10.

*	*	—	—	21 <sup>T</sup>	300 <sup>U</sup>	300 <sup>V</sup>	—	—	*	—	—
---	---	---	---	-----------------	------------------	------------------	---	---	---	---	---

Gamma 30. U, V. See Gamma 10.

*	*	—	—	21 <sup>T</sup>	—	—	50 <sup>W</sup>	45 <sup>W</sup>	√ <sup>X</sup>	*	√
---	---	---	---	-----------------	---	---	-----------------	-----------------	----------------	---	---

tion to FORTRAN.

*	*	51 <sup>R</sup>	150 <sup>S</sup>	84 <sup>T</sup>	600 <sup>U</sup>	600 <sup>V</sup>	1000 <sup>W</sup>	150 <sup>W</sup>	√ <sup>X</sup>	*	—
---	---	-----------------	------------------	-----------------	------------------	------------------	-------------------	------------------	----------------	---	---

LSA in addition to FORTRAN.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.  
— none, ☆ see Section II-B, \* information unavailable.



**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### SEA 4000

6-10 276<sup>A</sup> \* 8-16 \* \* — BF  
 5/66 6<sup>B</sup> 1a \* \* 3 —

A. Assumes two five-character fields. B. Per byte. R, T, U, V, W. See

### SEREL 505

12 100 \* 1<sup>D</sup> — \* \* √ B  
 /65 14 20b \* \* 1 IM

D. Internal storage is transfluxor type. R, S, T, U, V, W. Will interface

### SEREL 1001

2-6 42 \* 4-32 — \* \* √ B  
 /60 6 20b \* \* 2 IM

R, S, T, U, V, W. See 505.

### SETI PALLAS

2.8-12 25 \* 8-131 \* \* \* √ F  
 6/64 3 1a \* \* 1 I

R, T. Indicates transfer rates in thousands of characters per second. Model numbers not yet available. U. Indicates speed in cards per minute. Model numbers not yet available. V. Indicates speed in lines per minute. Model

### Germany (West)

#### SIEMENS 302

.8 3<sup>A</sup> \* 8-16 — \* \* √ —  
 9/67 1.5<sup>B</sup> 4a<sup>E</sup> \* 23 0 IM

A. Assumes two four-character fields. B. Per four bytes. E. Memory is organized in six-bit characters or bytes. R. 2014 and 2015 also available.

#### SIEMENS 303

1-7.5 92<sup>A</sup> \* 1-16 — \* \* √ —  
 4/65 8.3<sup>B</sup> 4a<sup>E</sup> \* 31 0 IM

A, E, R, V, X. See 302. B. Per byte.

### Input-Output Channels

Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor \$  
 Business Compiler

\* \* 77<sup>R</sup> — 24-96<sup>T</sup> 600<sup>U</sup> 900<sup>V</sup> 110<sup>W</sup> √ \* √<sup>Z</sup>  
 1500. Z. PAGE (modified COBOL).

\* \* —<sup>R</sup> —<sup>T</sup> —<sup>U</sup> —<sup>V</sup> —<sup>W</sup> — \* —  
 \* \* —<sup>S</sup> —<sup>U</sup> —<sup>W</sup> \* —  
 with any manufactured equipment.

\* \* —<sup>R</sup> —<sup>T</sup> —<sup>U</sup> —<sup>V</sup> —<sup>W</sup> — \* —  
 \* \* —<sup>S</sup> —<sup>U</sup> —<sup>W</sup> \* —

\* \* 100<sup>R</sup> 34<sup>T</sup> 600<sup>U</sup> 1200<sup>V</sup> 110<sup>W</sup> √<sup>X</sup> \* √<sup>Z</sup>  
 \* \* — 100<sup>U</sup> 300<sup>W</sup> \* —  
 numbers not yet available. W. Indicates speed in characters per second. Model numbers not yet available. X. ALGOL and MAGE II in addition to FORTRAN. Z. GEAL.

5 \* 2013<sup>R</sup> — 2010 2022<sup>V</sup> 2007 √<sup>X</sup> —  
 \* — 2021 2006 \* —  
 V. 2023, 2024 and 2025 also available. X. ALGOL in addition to FORTRAN.

6 \* 2013<sup>R</sup> — 2010 2022<sup>V</sup> 2007 √<sup>X</sup> —  
 \* — 2021 2006 \* —

†X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, \* see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision	Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
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#### SIEMENS 304

1.8	6/68	3 <sup>A</sup>	1.5 <sup>B</sup>	*	8-16	4a <sup>E</sup>	*	*	41	√	0	—	—	IM
-----	------	----------------	------------------	---	------	-----------------	---	---	----	---	---	---	---	----

A, B, E, R, V, X. See 302.

#### SIEMENS 305

2.3	11/67	3 <sup>A</sup>	1.5 <sup>B</sup>	*	8-16	4a <sup>E</sup>	√	*	45	√	0	F	—	IM
-----	-------	----------------	------------------	---	------	-----------------	---	---	----	---	---	---	---	----

A, B, E, R, V, X. See 302.

#### SIEMENS 2002

4.8	6/59	180	14	*	1-100	12d	*	*	√	3	F	—	—	—
-----	------	-----	----	---	-------	-----	---	---	---	---	---	---	---	---

X. See 302.

#### SIEMENS 3003

3	12/63	40 <sup>A</sup>	12.5 <sup>B</sup>	*	16-65	1a <sup>E</sup>	*	*	√	0	—	—	—	IM
---	-------	-----------------	-------------------	---	-------	-----------------	---	---	---	---	---	---	---	----

A, B, E, X. See 302.

#### SIEMENS 4004/15

2.4-8.2	10/65	56 <sup>A</sup>	2 <sup>B</sup>	—	4-16	1a <sup>E</sup>	—	—	16	—	0	BL	—	I
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A. Assumes two five-character fields. B. See 303. E. Memory is organized in eight-bit characters or two four-bit digits. T. 441, 442, 4443 and 4446 also available. U. 4235 reader, 236 punch and 236 reader/punch

#### SIEMENS 4004/25

4.1-20.8	1/66	33 <sup>A</sup>	1.5 <sup>B</sup>	15	16-65	1a <sup>E</sup>	—	—	16	—	31	15	XDF	CI
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A, E, T, U, V, W. See 4004/15. B. See 302. Note. A version of the

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor \$	Business Compiler
---------------------------------	---------------	---------------------------------	--------------	---------------	-----------------------------------	------------	---------	-------------------	------------------	--	-------------------

10	*	2013 <sup>R</sup>	—	2010	2022 <sup>V</sup>	2007	√ <sup>X</sup>	—	—	—	—
----	---	-------------------	---	------	-------------------	------	----------------	---	---	---	---

10	*	2013 <sup>R</sup>	—	2010	2022 <sup>V</sup>	2007	√ <sup>X</sup>	—	—	—	—
----	---	-------------------	---	------	-------------------	------	----------------	---	---	---	---

*	*	*	*	*	*	*	√ <sup>X</sup>	—	—	—	—
---	---	---	---	---	---	---	----------------	---	---	---	---

*	*	*	*	*	*	*	√ <sup>X</sup>	—	—	—	—
---	---	---	---	---	---	---	----------------	---	---	---	---

6	*	—	—	432 <sup>T</sup>	237 <sup>U</sup>	243 <sup>V</sup>	4225	—	√	—	—
---	---	---	---	------------------	------------------	------------------	------	---	---	---	---

also available. V. 4247 also available. W. 4227 reader also available. Note. A version of the RCA Spectra 70/15.

8	4.5M	—	—	432 <sup>T</sup>	237 <sup>U</sup>	243 <sup>V</sup>	4225	—	√	—	—
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RCA Spectra 70/25.

†X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.  
— none, ☆ see Section II-B, \* information unavailable.

## CENTRAL PROCESSORS CHARACTERISTICS



**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### SIEMENS 4004/35

7.4-19      22.8<sup>A</sup>      16<sup>C</sup>      16-65      56      16      —      ALL  
 2/67      1.44<sup>B</sup>      1a<sup>E</sup>      —      144      43      XAP

A. See 302.      B. Per two bytes.      C. For each of up to four processor  
 states.      E, T, U, V, W. See 4004/15.      Note. A version of the RCA

### SIEMENS 4004/45

9-33      8.88<sup>A</sup>      16<sup>C</sup>      16-262      56      16      —      ALL  
 7/66      1.44<sup>B</sup>      1a<sup>E</sup>      —      144      43      XAP

A. See 302.      B, C. See 4004/35.      E, T, U, V, W. See 4004/15.      Note.

### SIEMENS 4004/55

15-50      2.58<sup>A</sup>      16<sup>C</sup>      65-524      56      16      —      ALL  
 12/66      .84<sup>B</sup>      1a<sup>E</sup>      —      144      43      XAP

A. See 302.      B, C. See 4004/35.      E, T, U, V, W. See 4004/15.      Note.

### TELEFUNKEN TR4

12.5-40      10      \*      12-32      —      \*      √      F  
 /62      6      48b<sup>E</sup>      \*      \*      256      IM

E. Instructions stored two per word.      R, S, T. Indicates transfer rates in  
 thousands of character per seconds. Model numbers not yet available.  
 U. Indicates speed in cards per minute. Model numbers not yet available.

### TELEFUNKEN TR10

2.2-9      150<sup>A</sup>      \*      10-80      —      \*      —      B  
 9/64      8<sup>B</sup>      1a      \*      \*      10      I

A. Assumes two five-character fields.      B. Per byte.      R, S, T, U, V, W.

### TELEFUNKEN TR86

\*      1.8      \*      4-32      —      \*      —      B  
 6/67      .9      24b      2      \*      0      I

R, S, T, U, V, W. See TR4.

## CENTRAL PROCESSORS CHARACTERISTICS

**Input-Output Channels**  
 Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor \$  
 Business Compiler

2      6.4M      565      432<sup>T</sup>      237<sup>U</sup>      243<sup>V</sup>      4225      √      —      √  
 Spectra 70/35.

3      4.2M      565      432<sup>T</sup>      237<sup>U</sup>      243<sup>V</sup>      4225      √      —      √  
 A version of the RCA Spectra 70/45.

6      5.8M      565      432<sup>T</sup>      237<sup>U</sup>      243<sup>V</sup>      4225      √      —      √  
 A version of the RCA Spectra 70/55.

\*      \*      100<sup>R</sup>      55<sup>T</sup>      800<sup>U</sup>      960<sup>V</sup>      150<sup>W</sup>      √<sup>X</sup>      \*      √  
 125<sup>S</sup>      250<sup>U</sup>      1000<sup>W</sup>

V. Indicates speed in lines per minute. Model numbers not yet available.  
 W. Indicates speed in characters per second. Model numbers not yet avail-  
 able.      X. ALGOL in addition to FORTRAN.

\*      \*      100<sup>R</sup>      55<sup>T</sup>      1500<sup>U</sup>      1000<sup>V</sup>      150<sup>W</sup>      √<sup>X</sup>      \*      √  
 125<sup>S</sup>      300<sup>U</sup>      1000<sup>W</sup>

See TR4.      X. ALGOL.

\*      \*      1100<sup>R</sup>      79<sup>T</sup>      1500<sup>U</sup>      960<sup>V</sup>      150<sup>W</sup>      √      \*      √  
 300<sup>S</sup>      316<sup>U</sup>      1000<sup>W</sup>

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability,  
 F - floating point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory  
 protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision	Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
---	----------------------------------	---	---------------------------------------	--------------	--	-----------	--------------------------	---------	---------------------------------	-----------------	---------------------	-----------------	-----------------	----------------

### TELEFUNKEN TR440

4-160	6/67	.6	.9	*	64-256 <sup>c</sup>	48b <sup>E</sup>	*	√	*	*	√	F		IP
-------	------	----	----	---	---------------------	------------------	---	---	---	---	---	---	--	----

E, R, S, T, U, V, W, X. See TR4.

### ZUSE Z23

2-3	/60	340	12	*	2-8	40b	—	*	*	*	—	—	—	I
-----	-----	-----	----	---	-----	-----	---	---	---	---	---	---	---	---

T. 408 also available. W. 6, 1001 and 2000 readers also available.

### ZUSE Z25

1-7	4/63	85	8	*	1-20	18b	—	*	*	*	—	1024	—	I
-----	------	----	---	---	------	-----	---	---	---	---	---	------	---	---

S. 7300 also available. T. 11, 507 and 509 also available. U. ERC/I reader and EP/46 punch also available. V. 1000 also available. W. See

### ZUSE Z26

2.5-10	5/67	3.5	1.75	*	8-32	24b	*	*	*	*	√	4000	F	IM
--------	------	-----	------	---	------	-----	---	---	---	---	---	------	---	----

S, T, U, V. See Z25. W. See Z23. X. ALGOL and SESAM in addition

### ZUSE Z31

3-8	12/62	420	420	*	0.2-11	11d <sup>E</sup>	—	*	*	*	—	10	—	—
-----	-------	-----	-----	---	--------	------------------	---	---	---	---	---	----	---	---

E. Memory is organized in four-bit digits. V. See Z25. W. 6 reader

### ZUSE Z32

.5-.95	1/66	462	30	*	.32-4	8d	—	*	*	*	—	2	—	I
--------	------	-----	----	---	-------	----	---	---	---	---	---	---	---	---

E, W. See Z31.

### Input-Output Channels

Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor \$	Business Compiler
*	*	1100 <sup>R</sup>	300 <sup>S</sup>	79 <sup>T</sup>	1500 <sup>U</sup>	960 <sup>V</sup>	316 <sup>U</sup>	1000 <sup>W</sup>	150 <sup>W</sup>	√ <sup>X</sup>	√
*	*	59	—	110 <sup>T</sup>	80	300	80	5 <sup>W</sup>	1501	√ <sup>X</sup>	√
X. ALGOL.											
*	*	59	5022 <sup>S</sup>	7 <sup>T</sup>	122 <sup>U</sup>	300 <sup>V</sup>	303 <sup>U</sup>	5 <sup>W</sup>	1501	√ <sup>X</sup>	√ <sup>Z</sup>
Z23. X. KOMTESS T and ALGOL. Z. KOMTESS K.											
*	*	59	5022 <sup>S</sup>	7 <sup>T</sup>	122 <sup>U</sup>	300 <sup>V</sup>	303 <sup>U</sup>	5 <sup>W</sup>	1501	√ <sup>X</sup>	—
to FORTRAN.											
*	*	59	5024	408	122	300 <sup>V</sup>	—	5 <sup>W</sup>	1501	—	—
also available.											
*	*	—	—	—	—	—	—	5 <sup>W</sup>	1501	—	—

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

## CENTRAL PROCESSORS CHARACTERISTICS

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### Italy

#### OLIVETTI GE 115

1.5-6.3 148<sup>A</sup> \* 4-16 — \* — B  
 11/65 8<sup>B</sup> 1a<sup>E</sup> \* \* 0 —

A. Assumes two five-digit fields. B. Per byte. E. Memory is organized in eight-bit bytes or two four-bit digits. S. Indicates transfer rate in thousands of characters per second. Model numbers not yet available. U. Indicates speed in cards per minute. Model numbers not yet available.

#### OLIVETTI GE ELEA 4001

1.8-4.5 530<sup>A</sup> \* 4-65 — \* √ B  
 11/64 8<sup>B</sup> 1a<sup>E</sup> \* \* \* 64 I

A, B, E, S, U, V, W. See 115. T. Indicates transfer rate in thousands of

#### OLIVETTI GE ELEA 6001

4-8 421<sup>A</sup> \* 10-100 — \* √ B  
 2/62 5<sup>B</sup> 1d<sup>E</sup> \* \* \* 0 —

A. Assumes two ten-digit fields. B. Per digit. E. Memory is organized in four-bit digits. S, U, V, W. See 115. T. See Elea 4001. X. APS

#### OLIVETTI GE ELEA 9003

8-14 200<sup>A</sup> \* 20-160 — \* √ B  
 10/60 5<sup>B</sup> 1d<sup>E</sup> \* \* \* 40 I

A, B, E, X, Z. See Elea 6001. S, U, V, W. See 115. T. See Elea 4001.

### Japan

#### FUJITSU FACOM 212

.8 4500 \* 56 — \* \* —  
 6/59 150 13d \* \* \* 0 —

U. Indicates speed in cards per minute. Model numbers not yet available.

## CENTRAL PROCESSORS CHARACTERISTICS

**Input-Output Channels**  
 Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

\* — 300<sup>U</sup> 300<sup>V</sup> 500<sup>W</sup> — √<sup>Z</sup>  
 \* \* 125<sup>S</sup> 300<sup>U</sup> 100<sup>W</sup> \* —

V. Indicates speed in lines per minute. Model numbers not yet available. W. Indicates speed in characters per second. Model numbers not yet available. Z. TAB in addition to COBOL.

\* — 83<sup>T</sup> 1500<sup>U</sup> 1100<sup>V</sup> 100<sup>W</sup> √ \* √  
 \* \* 70<sup>S</sup> 300<sup>U</sup> 400<sup>W</sup> \* —

characters per second. Model numbers not yet available.

\* — 32.5<sup>T</sup> 1500<sup>U</sup> 650<sup>V</sup> 800<sup>W</sup> √<sup>X</sup> √<sup>Z</sup>  
 \* \* 35<sup>S</sup> 300<sup>U</sup> 100<sup>W</sup> \* —

and PALGO in addition to FORTRAN. Z. PSICO and PAC.

\* — 65<sup>T</sup> 1500<sup>U</sup> 650<sup>V</sup> 800<sup>W</sup> √<sup>X</sup> √<sup>Z</sup>  
 \* \* 70<sup>S</sup> 300<sup>U</sup> 50<sup>W</sup> \* —

\* — 100<sup>U</sup> 80<sup>V</sup> — \* —  
 \* \* — 100<sup>U</sup> — \* —

V. Indicates speed in lines per minute. Model numbers not yet available.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars  
 First Delivery Month and Year  
 Processor Speed Complete Add Time in Microseconds  
 Storage Cycle Time in Microseconds  
 Accumulators  
 Internal Storage Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
 Instruction Set Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
 Time-Sharing ‡

**FUJITSU FACOM 222**

10-16 9/61 160 10 \* 10 13d \* \* \* — F —

U, V. See Facom 212. W. Indicates speed in characters per second. Model numbers not yet available. X. ALGOL and FAST. Z. FASP

**FUJITSU FACOM 230/10**

.27-.7 11/65 143<sup>A</sup> 2.2<sup>B</sup> \* 4-8 1a<sup>E</sup> \* \* \* 1 \* BFH |

A. Assumes two five-character fields. B. Per byte. E. Memory is organized in eight-bit characters or two four-bit digits. R. 624 also available.

**FUJITSU FACOM 230/20**

1.2 9/66 78.3 1.8<sup>B</sup> \* 4-32 1a<sup>E</sup> \* \* \* 1 \* BFH IM

A, E, R, U, V, W. See Facom 230/10. B. Per digit.

**FUJITSU FACOM 230/30**

2 3/65 58.3<sup>A</sup> 2.2<sup>B</sup> \* 8-65 1a<sup>E</sup> \* \* \* 1 \* XDF IM

A, B, E, R, U, V, W. See Facom 230/10.

**FUJITSU FACOM 230/50**

3.5 3/66 4.4 2.2 \* 16-65 27 36b \* 16 \* ∞ 7 ALL IMS

R, U, V, W. See Facom 230/10.

**FUJITSU FACOM 231**

.8-4.8 5/63 495 15 \* 32 \* — \* √ 0 B —

U, V. See Facom 212. W. See Facom 222. X. ALGOL and FAST.

Input-Output Channels Number  
 Transfer Rate  
 Auxiliary Storage Fixed Head  
 Movable Head  
 Magnetic Tape  
 Peripheral Devices Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
 Software Algebraic Compiler  
 Monitor \$  
 Business Compiler

\* \* — — — 500<sup>U</sup> 200<sup>U</sup> 500<sup>V</sup> 133<sup>W</sup> √<sup>X</sup> \* √<sup>Z</sup>  
 in addition to COBOL.

\* \* 622<sup>R</sup> — 603 567<sup>U</sup> 682 641<sup>V</sup> 749 766<sup>W</sup> √ — √  
 able. U. 663 reader also available. V. 642 and 643 also available. W. 767 punch also available.

\* \* 622<sup>R</sup> — 603 567<sup>U</sup> 682 641<sup>V</sup> 749 766<sup>W</sup> √ — √

4 \* 622<sup>R</sup> — 603 567<sup>U</sup> 682 641<sup>V</sup> 749 766<sup>W</sup> √ — √

7 \* 622<sup>R</sup> — 603 567<sup>U</sup> 682 641<sup>V</sup> 749 766<sup>W</sup> √ T √

\* \* — — — 500<sup>U</sup> 200<sup>U</sup> 300<sup>V</sup> 100<sup>W</sup> √<sup>X</sup> \* √<sup>Z</sup>  
 Z. FASP.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars  
 First Delivery Month and Year  
 Processor Speed Complete Add Time in Microseconds  
 Storage Cycle Time in Microseconds  
 Accumulators  
 Internal Storage Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
 Instruction Set Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
 Time-Sharing ‡

#### FUJITSU FACOM 241

5-8 12/62 120 10 \* 9 8d<sup>E</sup> \* \* \* 8 — —

E. Memory is organized in four-bit digits. U, V. See Facom 212. W. See

#### HITACHI HIPAC 103

2.6-6.7 11/61 400 85 \* 1.4 48b √ \* \* √ 3 F —

T. Indicates transfer rate in thousands of characters per second. Model numbers not yet available. V. Indicates speed in lines per minute. Model

#### HITACHI HITAC 201

.7-2.5 6/61 4000 3300 \* 4<sup>D</sup> 12d<sup>E</sup> \* \* \* 8 — —

D. Internal storage is drum. E. Memory is organized in four-bit digits.

#### HITACHI HITAC 3010

3.4-25 5/62 94<sup>A</sup> 3.5<sup>B</sup> — 10-40 8<sup>F</sup> 1a<sup>F</sup> — 4<sup>H</sup> 46 3 XD I

A. Assumes two five-character fields. B. Per byte. E. Memory is organized in six-bit characters or bytes. F, H. Decimal digits. T, V, W. See Hipac 103. U. Indicates speed in cards per minute. Model numbers not

#### HITACHI HITAC 3030

\* 12/62 12 10 \* 4-16 40b \* \* √ 4 — I

T, V, W. See Hipac 103.

#### HITACHI HITAC 4010

9-40 11/64 27.4<sup>A</sup> 1.5<sup>B</sup> — 40-160 8<sup>F</sup> 1a<sup>F</sup> — 4<sup>H</sup> 62 3 XD CI

A, B, E, F, H, U. See Hitac 3010. R. Indicates transfer rate in thousands of characters per second. Model numbers not yet available. T, V,

Input-Output Channels  
 Number  
 Transfer Rate  
 Auxiliary Storage Fixed Head  
 Movable Head  
 Magnetic Tape  
 Peripheral Devices  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
 Software  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

\* \* — — 500<sup>C</sup> 500<sup>V</sup> 133<sup>W</sup> — √<sup>Z</sup>  
 200<sup>C</sup> 400<sup>W</sup> \*  
 Facom 222. Z. See Facom 231.

\* \* — 24<sup>T</sup> — 300<sup>V</sup> 8<sup>W</sup> √<sup>X</sup> —  
 \* — 200<sup>W</sup> \*  
 numbers not yet available. W. Indicates speed in characters per second. Model numbers not yet available. X. HARP 103.

\* \* — 1<sup>T</sup> — 120<sup>V</sup> 8<sup>W</sup> — —  
 \* — 200<sup>W</sup> \*  
 T, V, W. See Hipac 103.

2 \* — 10-120<sup>T</sup> 1740<sup>U</sup> 1000<sup>V</sup> 100<sup>W</sup> √<sup>X</sup> √  
 \* — 200 1000<sup>W</sup> — —  
 yet available. X. UMAC in addition to FORTRAN. Note. A version of the RCA 301.

\* \* — 24<sup>T</sup> — 180<sup>V</sup> 100<sup>W</sup> — —  
 \* — 200<sup>W</sup> — —

3 3.5M 128<sup>R</sup> 30-120<sup>T</sup> 1470<sup>U</sup> 1000<sup>V</sup> 100<sup>W</sup> √ √  
 \* — 200<sup>C</sup> 1000<sup>W</sup> — —  
 W. See Hipac 103.

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, † See Section 11-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
**Accumulators**  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

### HITACHI HITAC 5020

12-42      8      \*      8-65      \*      \*      √      BF  
 3/65      2           32b      —      \*      7      IM  
 T, V, W. See Hipac 103.      U. See Hitac 3010.      X. HARP 5020 and

### HITACHI HITAC 5020E

25-100      1.6      \*      12-262      \*      \*      √      BF  
 12/66      1.5           32b      √      \*      7      IM  
 T, V, W. See Hipac 103.      U. See Hitac 3010.      X. See Hitac 5020.

### HITACHI HITAC 8100

1-3.3      63.7<sup>A</sup>      \*      4-8      —      \*      —      B  
 12/66      1.5<sup>B</sup>           1a<sup>E</sup>      \*      \*      0      I  
 A. Assumes two five-digit fields.      B, U. See Hitac 3010.      E. Memory is organized in eight-bit characters or two four-bit digits.      S. Indicates transfer rate in thousands of characters per second. Model numbers not yet available.      T, V, W. See Hipac 103.      Z. POP (Problem Oriented Package) in addition to COBOL.

### HITACHI HITAC 8200

2.2-7      56<sup>A</sup>      \*      4-16      —      \*      —      B  
 9/66      2<sup>B</sup>           1a<sup>E</sup>      \*      \*      0      I  
 A, E. See Hitac 8100.      B, U. See Hitac 3010.      T, V, W. See Hipac 103.

### HITACHI HITAC 8300

5.6-1.67      19.68<sup>A</sup>      16<sup>C</sup>      16-65      \*      \*      —      BF  
 1/67      1.44<sup>B</sup>           1a<sup>E</sup>      \*      \*      43      IM  
 A. Assumes two four-character fields.      B. Per two bytes.      C. For each processor state.      E, S. See Hitac 8100.      R. See Hitac 4010.      T, V, W. See

### HITACHI HITAC 8400

8.3-27.8      8.88<sup>A</sup>      16<sup>C</sup>      16-262      \*      \*      —      BF  
 11/67      1.44<sup>B</sup>           1a<sup>E</sup>      \*      \*      43      IM  
 A, B, C. See Hitac 8300.      E, S. See Hitac 8100.      R. See Hitac 4010.

### Input-Output Channels

Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

\*      \*      —      —      24-120<sup>T</sup>      1470<sup>U</sup>      1000<sup>V</sup>      100<sup>W</sup>      √<sup>X</sup>      \*      —  
 ALGOL.

\*      \*      —      —      120<sup>T</sup>      600<sup>U</sup>      1000<sup>V</sup>      8<sup>W</sup>      √<sup>X</sup>      \*      √

\*      \*      —      70<sup>S</sup>      7.5<sup>T</sup>      400<sup>U</sup>      300<sup>V</sup>      100<sup>W</sup>      √      \*      √<sup>Z</sup>  
 able.      T, V, W. See Hipac 103.      Z. POP (Problem Oriented Package) in addition to COBOL.

\*      \*      —      —      15-120<sup>T</sup>      1470<sup>U</sup>      1250<sup>V</sup>      100<sup>W</sup>      √      \*      √  
 250<sup>U</sup>      1000<sup>W</sup>

\*      \*      210<sup>R</sup>      30-120<sup>T</sup>      1470<sup>U</sup>      1250<sup>V</sup>      100<sup>W</sup>      √      \*      √  
 156<sup>S</sup>      250<sup>U</sup>      1000<sup>W</sup>  
 Hipac 103.      U. See Hitac 3010.

\*      \*      210<sup>R</sup>      30-120<sup>T</sup>      1470<sup>U</sup>      1250<sup>V</sup>      100<sup>W</sup>      √      \*      √  
 156<sup>S</sup>      250<sup>U</sup>      1000<sup>W</sup>  
 T, V, W. See Hipac 103.      U. See Hitac 3010.

†X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

**Price Range**  
 Monthly in  
 Thousand Dollars  
**First Delivery**  
 Month and Year  
**Processor Speed**  
 Complete Add Time  
 in Microseconds  
 Storage Cycle Time  
 in Microseconds  
 Accumulators  
**Internal Storage**  
 Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
**Instruction Set**  
 Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
**Time-Sharing ‡**

**HITACHI HITAC 8500**

11-50 12/67 1.79<sup>A</sup> 16<sup>C</sup> 65-524 \* \* \* — BF  
 .84<sup>B</sup> 1a<sup>E</sup> \* \* \* 43 IM

A, C. See Hitac 8300. B. Per four bytes. E, S. See Hitac 8100. R. See

**MATSUSHITA MADIC IIA**

1.2-1.7 9/61 1000 \* 4<sup>D</sup> \* \* \* — F  
 11000 33b \* \* \* 2 —

D. Internal storage is drum. W. Indicates speed in characters per second.

**MATSUSHITA MADIC III**

2-7.5 11/63 540 \* 4-32 \* \* \* √ F  
 10 36b \* \* \* 64 I

U. Indicates speed in cards per minute. Model numbers not yet available.  
 V. Indicates speed in lines per minute. Model numbers not yet available.

**MATSUSHITA MADIC 500**

\* /64 10200 \* 3-6<sup>D</sup> — \* \* — —  
 20000 7d \* \* \* 0 —

D, W, X. See Madic IIA. U, V. See Madic III.

**MITSUBISHI MELCOM 1101F**

2.1 3/60 310 \* 4<sup>D</sup> \* \* \* — F  
 7800 33b \* \* \* 4 —

D. Internal storage is drum. W. Indicates speed in characters per second.

**MITSUBISHI MELCOM 1530**

4-20 1/64 12 6 \* 8-32 \* \* \* √ BF  
 18b<sup>E</sup> \* \* \* — L IM

E. Expandable to 36b or 54b. L. Unlimited number available through micro-command portions of stored logic. R, S, T. Indicates transfer rate in thousands of characters per second. Model numbers not yet available.

**CENTRAL PROCESSORS CHARACTERISTICS**

**Input-Output Channels**  
 Number  
 Transfer Rate  
**Auxiliary Storage**  
 Fixed Head  
 Movable Head  
**Magnetic Tape**  
**Peripheral Devices**  
 Card Reader  
 Card Punch  
 Printer  
 Paper-Tape Reader  
 Paper-Tape Punch  
**Software**  
 Algebraic Compiler  
 Monitor §  
 Business Compiler

\* \* 210<sup>R</sup> 30-120<sup>T</sup> 1470<sup>U</sup> 1250<sup>V</sup> 100<sup>W</sup> √ \* √  
 156<sup>S</sup> 250<sup>U</sup> 1000<sup>W</sup> \* √  
 Hitac 4010. T, V, W. See Hipac 103. U. See Hitac 3010.

\* \* — — — — — — 70<sup>W</sup> √<sup>X</sup> —  
 200<sup>W</sup> — — — — —  
 Model numbers not yet available. X. ALGOL.

\* \* — — — 400<sup>U</sup> 500<sup>V</sup> 100<sup>W</sup> √<sup>X</sup> —  
 100<sup>U</sup> 400<sup>W</sup> — — — —  
 W, X. See Madic IIA.

\* \* — — — 15<sup>U</sup> 100<sup>V</sup> 12<sup>W</sup> — —  
 15<sup>U</sup> 200<sup>W</sup> — — — —

\* \* — — — — — 20<sup>W</sup> √<sup>X</sup> —  
 400<sup>W</sup> — — — — —  
 Model numbers not yet available. X. MUSE.

\* \* 47<sup>R</sup> 15-42<sup>T</sup> 1650<sup>U</sup> 750<sup>V</sup> 150<sup>W</sup> √ \* √  
 116<sup>S</sup> 300<sup>U</sup> 1000<sup>W</sup> \* √  
 U. Indicates speed in cards per minute. Model numbers not yet available.  
 V. Indicates speed in lines per minute. Model numbers not yet available.  
 W. See Melcom 1101F.

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability,  
 F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory  
 protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ∞ - see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision	Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
<b>MITSUBISHI MELCOM 3100/10, 30, 50</b>														
2-20	9/66	3.5	1.75	*	12-96 <sup>D</sup>	18b <sup>E</sup>	*	*	*	√	—	L	BF	IM
D. 24K minimum on Models 30 and 50. E, L, R, S, T, U, V. See Melcom														
<b>NIPPON ELECTRIC NEAC 1210</b>														
.4	10/64	3600	1667	*	5 <sup>D</sup>	6d	—	*	*	—	0	—	—	—
D. Internal storage is drum. W. Indicates speed in characters per second.														
<b>NIPPON ELECTRIC NEAC 2200/50</b>														
1.5-2	5/67	63 <sup>A</sup>	2 <sup>B</sup>	*	4-16	1a <sup>E</sup>	—	*	*	√	6	B	—	I
A. Assumes two five-character fields. B. Per byte. E. Memory is or-														
<b>NIPPON ELECTRIC NEAC 2200/100</b>														
1.4-4.2	11/66	63 <sup>A</sup>	2 <sup>B</sup>	1	2-32	1a <sup>E</sup>	—	1	12-18	∞	37	6	XFH	CI
A, B, E. See Neac 2200/50. S. N260 also available. U. N223 reader, N224 punch, and N227 and N214 reader/punches. V. N206 and N222														
<b>NIPPON ELECTRIC NEAC 2200/200</b>														
2.2-9.7	7/64	44 <sup>A</sup>	2 <sup>B</sup>	1	4-65	1a <sup>E</sup>	—	1	12-24	∞	39	15	XF	CI
A, B, E. See Neac 2200/50. S. See Neac 2200/100. U. N224 punch, and N227 and N214 reader/punches also available. V. N222 also available.														
<b>NIPPON ELECTRIC NEAC 2200/300</b>														
4.2-19.5	2/67	31.5 <sup>A</sup>	1.5 <sup>B</sup>	1	16-131	1a <sup>E</sup>	—	1	12-24	∞	57	15	ALL	XP
A, B, E. See Neac 2200/50. S. See Neac 2200/100. U, V. See Neac														

CENTRAL PROCESSORS CHARACTERISTICS

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler	Monitor §	Business Compiler
*	*	47 <sup>R</sup>	116 <sup>S</sup>	30-120 <sup>T</sup>	800 <sup>U</sup>	300	1000 <sup>V</sup>	120 <sup>W</sup>	120 <sup>W</sup>	√	*	√
1530. W. See Melcom 1101F. Note. Model 50 to be delivered 12/66.												
*	*	—	—	—	—	—	—	8.7 <sup>W</sup>	11.7 <sup>W</sup>	—	—	—
Model numbers not yet available.												
*	*	E271	E261	E204	E214	E214	E206	E210	E209	√	—	√
ganized in eight-bit characters or bytes.												
3	1.3M	N271	N259 <sup>S</sup>	N204	N123 <sup>U</sup>	N214 <sup>U</sup>	N122 <sup>V</sup>	N110 <sup>W</sup>	N109 <sup>W</sup>	√	—	√
also available. W. N209 reader and N210 punch also available. Note. A version of the Honeywell 200/120.												
4	1.3M	N271	N259 <sup>S</sup>	N204	N223 <sup>U</sup>	N214 <sup>U</sup>	N206 <sup>V</sup>	N210	N209	√	—	√
Note. A version of the Honeywell 200/200.												
4	1.3M	N271	N259 <sup>S</sup>	N204	N223 <sup>U</sup>	N214 <sup>U</sup>	N206 <sup>V</sup>	N210	N209	√	—	√
2200/200. Note. A version of the Honeywell 200/1200.												

† X - all except; B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
‡ X - all except; A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
§ G - batch, R - real-time, T - time-sharing.  
— none, ☆ see Section II-B, \* information unavailable.



Price Range Monthly in Thousand Dollars  
 First Delivery Month and Year  
 Processor Speed Complete Add Time in Microseconds  
 Storage Cycle Time in Microseconds  
 Accumulators  
 Internal Storage Capacity in Thousand Words  
 Word Size  
 Floating-Point Precision  
 Overlap  
 Instruction Set Address Size  
 Operation Codes  
 Indirect Addressing  
 Index Registers  
 Extensiveness †  
 Time-Sharing ‡

**NIPPON ELECTRIC NEAC 2200/400**

8.3-27.7 22<sup>A</sup> 1 16-262 36 12-24 × ALL  
 10/66 1<sup>B</sup> 1a<sup>E</sup> 1 57 30 XP  
 A, B, E. See Neac 2200/50. S. See Neac 2200/100. U, V. See Neac

**NIPPON ELECTRIC NEAC 2200/500**

11-55 6<sup>A</sup> 1 65-524 36 12-24 × ALL  
 11/66 1<sup>B</sup> 1a<sup>E</sup> 4 57 30 XP  
 A, B, E. See Neac 2200/50. S. See Neac 2200/100. U, V. See Neac

**NIPPON ELECTRIC NEAC 2206**

3.3-25.3 50 \* 4-10 \* \* √ BF  
 3/62 10 12d \* \* 18 IM  
 U. 411 reader, 412 punch and 401 reader/punch also available. W. 121

**NIPPON ELECTRIC NEAC 2230**

2.1-18.9 100 \* 2-4 \* \* √ F  
 3/63 10 12d \* \* 3 IM  
 U, W, X. See Neac 2206. V. 402 also available.

**NIPPON ELECTRIC NEAC 2400**

7.5-15.6 120 \* 1-4 — \* — —  
 2/63 10 12d \* \* 3 I  
 X. AUTOMATH.

**NIPPON ELECTRIC NEAC 2800**

22-27 24 \* 4-32 \* \* √ BF  
 /64 6 12d \* \* 16 I  
 S. N859 and N860 also available. T. N204 also available. U. N223 reader, N214 and N224 punches, and N227 and N214 reader/punches also

**Input-Output Channels**

Number

Transfer Rate

**Auxiliary Storage**

Fixed Head

Movable Head

**Magnetic Tape**

**Peripheral Devices**

Card Reader

Card Punch

Printer

Paper-Tape Reader

Paper-Tape Punch

**Software**

Algebraic Compiler

Monitor \$

Business Compiler

8 1.3M N271 N259<sup>S</sup> N204 N223<sup>U</sup> N214<sup>U</sup> N206<sup>V</sup> N210 √ √  
 2200/200. Note. A version of the Honeywell 200/2200. GR

16 1.3M N271 N259<sup>S</sup> N204 N223<sup>U</sup> N214<sup>U</sup> N206<sup>V</sup> N210 √ √  
 2200/200. Note. A version of the Honeywell 200/4200. GR

\* 523 543 406<sup>U</sup> 402 381 √<sup>X</sup> √  
 \* 544 407<sup>U</sup> 104<sup>W</sup> —  
 and 151 punches also available. X. NARC.

\* 523 543 406<sup>U</sup> 352<sup>V</sup> 381 √<sup>X</sup> —  
 \* 544 407<sup>U</sup> 104<sup>W</sup> —

\* — N404 N423 N422 N410 √<sup>X</sup> √  
 \* N460 N427 N409 —

\* N271 N804<sup>T</sup> N823<sup>U</sup> N822<sup>V</sup> N810<sup>W</sup> √<sup>X</sup> √  
 \* N860<sup>S</sup> N824<sup>U</sup> N809<sup>W</sup> \*  
 available. V, W. See Neac 2200/100. X. See Neac 2400.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
 ‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
 § G - batch, R - real-time, T - time-sharing.  
 — none, ☆ see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision	Overlap	Instruction-Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
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### NIPPON ELECTRIC NEAC 3800

35	11/63	8 <sup>A</sup>	2	1	8-65	40	12d	1	12	√	8 <sup>L</sup>	FHL		CI
----	-------	----------------	---	---	------	----	-----	---	----	---	----------------	-----	--	----

A. For three operand addition. L. For each of up to eight programs.  
X. AUTOMATH 800 and AUTOMATH 1800 (FORTRAN-type). Z. FACT

### OKI ELECTRIC OKITAC 5090D

5.2	3/62	400	10	*	1-8	*	12d	—	*	—	1	F		—
-----	------	-----	----	---	-----	---	-----	---	---	---	---	---	--	---

T. Indicates transfer rates in thousands of characters per second. Model numbers not yet available. U. Indicates speed in cards per minute. Model numbers not yet available. V. Indicates speed in lines per minute. Model

### OKI ELECTRIC OKITAC 5090H

8	3/63	35	10	*	8-16	*	42b	—	*	√	15	F		I
---	------	----	----	---	------	---	-----	---	---	---	----	---	--	---

T, U, V, W, X. See Okitac 5090D. Note. System no longer marketed.

### OKI ELECTRIC OKITAC 5090M

6.9	9/63	400	10	*	1-8	*	12d	—	*	—	1	F		I
-----	------	-----	----	---	-----	---	-----	---	---	---	---	---	--	---

T, U, V, W, X. See Okitac 5090D. Note. System no longer marketed.

### TOSHIBA TOSBAC 3300

1.5-3 *	11/63	225	10	*	4-8	*	24b	*	*	√	1	F		IM
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X. MINITRAP, AUTOS, SMAP, and ALPS 33.

### TOSHIBA TOSBAC 3400

3.3-8	12/64	4.5	.8 <sup>B</sup>	*	8-32	*	24b	*	*	√	3	F		IM
-------	-------	-----	-----------------	---	------	---	-----	---	---	---	---	---	--	----

B. Four-microsecond memory available. U. 318 reader and 433 punch also available. V. 517/C, D also available. X. KT-TAP, ALPS 34 and

### Input-Output Channels

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
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16	375K	—	—	—	—	—	—	—	—	√ <sup>X</sup>	√ <sup>Z</sup>
----	------	---	---	---	---	---	---	---	---	----------------	----------------

in addition to COBOL. Note. A version of the Honeywell 1800.

*	*	—	—	25 <sup>T</sup>	500 <sup>U</sup>	500 <sup>V</sup>	150 <sup>W</sup>	150 <sup>W</sup>	400 <sup>W</sup>	√ <sup>X</sup>	—
---	---	---	---	-----------------	------------------	------------------	------------------	------------------	------------------	----------------	---

numbers not yet available. W. Indicates speed in characters per second. Model numbers not yet available. X. ALGOL in addition to FORTRAN. Note. System no longer marketed.

*	*	—	—	62.5 <sup>T</sup>	800 <sup>U</sup>	1000 <sup>V</sup>	250 <sup>U</sup>	150 <sup>W</sup>	400 <sup>W</sup>	√ <sup>X</sup>	√
---	---	---	---	-------------------	------------------	-------------------	------------------	------------------	------------------	----------------	---

*	*	—	—	42 <sup>T</sup>	500 <sup>U</sup>	500 <sup>V</sup>	150 <sup>U</sup>	150 <sup>W</sup>	400 <sup>W</sup>	√ <sup>X</sup>	√
---	---	---	---	-----------------	------------------	------------------	------------------	------------------	------------------	----------------	---

*	*	771	—	—	—	518	—	217	117	√ <sup>X</sup>	*
---	---	-----	---	---	---	-----	---	-----	-----	----------------	---

*	*	772	731	716	317 <sup>U</sup>	516 <sup>V</sup>	431 <sup>U</sup>	218	118	√ <sup>X</sup>	√
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ALGOL '60 in addition to FORTRAN.

†X - all except: B - byte manipulation, D - double precision, E - translate-edit capability,

F - floating point instructions, H - hardware multiply-divide, L - logical operations.

‡X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, \* see Section II-B, \* information unavailable.

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
<b>TOSHIBA TOSBAC 4200</b>													
3-6.5	3/62	330 <sup>A</sup>	15 <sup>B</sup>	*	4-40	1a <sup>F</sup>	*	*	*	6	—	—	—
A. Assumes two five-character fields. B. Per byte. E. Memory is organized in eight-bit characters or two four-bit digits. V. 515 and 517B													
<b>TOSHIBA TOSBAC 4300</b>													
4-9	12/64	220 <sup>A</sup>	10 <sup>B</sup>	*	10-80	1a <sup>F</sup>	*	*	√	8	B	—	—
A, B, E, V. See Tosbac 4200. U. 315 reader also available. Z. AUTO-													
<b>TOSHIBA TOSBAC 5100/20</b>													
3-12	12/66	43 <sup>A</sup>	1.8 <sup>B</sup>	*	4-65	1a <sup>E</sup>	*	*	—	3	B	—	I
A, B, E. See Tosbac 4200. T. 0094, 0111, and 0121 also available.													
<b>TOSHIBA TOSBAC 5100/30</b>													
3.5-15	9/67	28 <sup>A</sup>	.8 <sup>B</sup>	*	4-65	1a <sup>E</sup>	*	*	—	3	B	—	I
A, B, E. See Tosbac 4200. T, V, W. See Tosbac 5100/20.													
<b>TOSHIBA TOSBAC 5200</b>													
2.5-26	1/65	36	18	*	4-16	20b	*	*	—	3	F	—	IM
T. 690 also available.													
<b>TOSHIBA TOSBAC 5300</b>													
6-28	6/65	12	6	*	4-16	20b	*	*	—	3	F	—	I
T. See Tosbac 5200.													

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
*	*	—	—	715	313	416	514 <sup>V</sup>	213	—	*	√ <sup>Z</sup>
also available. Z. TAP.											
*	*	—	—	715	312 <sup>U</sup>	416	514 <sup>V</sup>	213	√	*	√ <sup>Z</sup>
TAP in addition to COBOL.											
*	*	—	5116	0074 <sup>T</sup>	5109	5102	5103 <sup>V</sup>	5102 <sup>W</sup>	√	*	√
V. 5104, 5105 and 5107 also available. W. 5115 also available.											
*	*	—	5116	0074 <sup>T</sup>	5109	5102	5103 <sup>V</sup>	5102 <sup>W</sup>	√	*	√
*	*	—	216	680 <sup>T</sup>	225	225	690	651	651	√	√
*	*	—	216	680 <sup>T</sup>	225	235	690	651	651	√	√

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability.  
F - floating point instructions, H - hardware multiply-divide, L - logical operations.

‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.

§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

## CENTRAL PROCESSORS CHARACTERISTICS

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision	Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
<b>TOSHIBA TOSBAC 5400/10</b>														
4.8-13.5	6/65	17.4	5.8	*	4-32	24b <sup>E</sup>	*	*	*	√	—	L	BDF	IM

E. Up to quadruple precision instructions included. L. Any word of memory can be used as an index register. S. 250 and 600 also available. T. 109, 111 and 112 also available. U. 150 and 200 punches also available.

<b>TOSHIBA TOSBAC 5400/20</b>														
3-25	9/65	10.8	3.9	*	8-32	24b <sup>E</sup>	*	*	*	√	—	L	BDF	IM

E, L, S, T, U, V. See Tosbac 5400/10. Note. Formerly marketed as

<b>TOSHIBA TOSBAC 5400/30</b>														
9-35	12/66	8.8	2.7	*	8-32	24b	*	*	*	√	—	L	BDF	IM

E, L, S, T, U, V. See Tosbac 5400/10.

<b>TOSHIBA TOSBAC 7000/60</b>														
*	6/67	3.2	1.6	*	16	24b	*	*	*	√	—	—	BF	IM

### Sweden

<b>DATASAB D21</b>														
4-10	12/62	9.6	4.8	*	8-32	24b	*	*	*	√	—	—	B	I

S, T. Indicates transfer rates in thousands of characters per second. Model numbers not yet available. U. Indicates speed in cards per minute. Model numbers not yet available. V. Indicates speed in lines per minute. Model

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor §	Business Compiler
*	*	—	204 <sup>S</sup>	107 <sup>T</sup>	200	100 <sup>U</sup>	200 <sup>V</sup>	200	200	√	√

V. 204, 206 and 208 also available. Note. Formerly marketed as Tosbac 5415.

*	*	—	204 <sup>S</sup>	107 <sup>T</sup>	200	100 <sup>U</sup>	200 <sup>V</sup>	200	200	√	√
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Tosbac 5425.

*	*	—	204 <sup>S</sup>	107 <sup>T</sup>	200	100 <sup>U</sup>	200 <sup>V</sup>	200	200	√	√
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*	*	F7000	M7000	7000	R7000	P7000	7000	P7000	R7000	√	—
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*	*	—	83 <sup>S</sup>	36 <sup>T</sup>	1500 <sup>U</sup>	300 <sup>U</sup>	1250 <sup>V</sup>	150 <sup>W</sup>	2000 <sup>W</sup>	√ <sup>X</sup>	√ <sup>Z</sup>
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numbers not yet available. W. Indicates speed in characters per second. Model numbers not yet available. X. DAC and ALGOL-GENIUS. Z. DAC and ALGOL-GENIUS (multi-purpose).

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
§ G - batch, R - real-time, T - time-sharing.

— none, ☆ see Section II-B, \* information unavailable.

### CENTRAL PROCESSORS CHARACTERISTICS

Price Range Monthly in Thousand Dollars	First Delivery Month and Year	Processor Speed Complete Add Time in Microseconds	Storage Cycle Time in Microseconds	Accumulators	Internal Storage Capacity in Thousand Words	Word Size	Floating-Point Precision Overlap	Instruction Set Address Size	Operation Codes	Indirect Addressing	Index Registers	Extensiveness †	Time-Sharing ‡
8-25	1/68	3.2	1.6	*	16-262 24b	*	*	*	√	3	BF	IM	

S, T, U, V, W. See D21. X. DAC and ALGOL-GENIUS in addition to

### The Netherlands

ELECTROLOGICA EL X1													
2.8-18	/58	64	32	*	5-32 27b	√	*	*	√	1	BF	I	

R, T. Indicates transfer rates in thousands of characters per second. Model numbers not yet available. U. Indicates speed in cards per minute. Model numbers not yet available. V. Indicates speed in lines per minute. Model

ELECTROLOGICA EL X2, X4													
1.9-11	6/66	38.75	5	*	4-32 27b	*	*	√	6	BF	IM		

R, T, U, V, W. See EL X1. S. Indicates transfer rate in thousands of characters per second. Model numbers not yet available. X. ALGOL '60

ELECTROLOGICA EL X8													
6.5-34	3/65	5	2.5 <sup>B</sup>	*	16-262 27b	*	3	√	6	BF	IM		

R, T, U, V, W. See EL X1. S. See EL X2, X4. X. ALGOL '60 and

PHILIPS PR 8000													
1.1-2	9/65	56	7	56	4-16 24b	—	*	12	60	24	BH	IM	

T. Indicates transfer rate in thousands of characters per second. Model numbers not yet available. U. Indicates speed in cards per minute. Model

### CENTRAL PROCESSORS CHARACTERISTICS

Input-Output Channels Number	Transfer Rate	Auxiliary Storage Fixed Head	Movable Head	Magnetic Tape	Peripheral Devices Card Reader	Card Punch	Printer	Paper-Tape Reader	Paper-Tape Punch	Software Algebraic Compiler Monitor \$	Business Compiler
*	*	—	83 <sup>S</sup>	36 <sup>T</sup>	1500 <sup>U</sup>	300 <sup>U</sup>	1250 <sup>V</sup>	2000 <sup>W</sup>	150 <sup>W</sup>	√ <sup>X</sup>	√ <sup>Z</sup>

FORTRAN. Z. DAC and ALGOL-GENIUS in addition to COBOL.

*	*	100 <sup>R</sup>	—	30 <sup>T</sup>	700 <sup>U</sup>	120 <sup>U</sup>	600 <sup>V</sup>	300 <sup>W</sup>	1000 <sup>W</sup>	√ <sup>X</sup>	—
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numbers not yet available. W. Indicates speed in characters per second. Model numbers not yet available. X. ZEBRA and ALGOL '60.

*	*	100 <sup>R</sup>	60 <sup>S</sup>	36-120 <sup>T</sup>	1200 <sup>U</sup>	250 <sup>U</sup>	1200 <sup>V</sup>	150 <sup>W</sup>	1000 <sup>W</sup>	√ <sup>X</sup>	√
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in addition to FORTRAN.

*	*	100 <sup>R</sup>	60 <sup>S</sup>	36-160 <sup>T</sup>	1200 <sup>U</sup>	250 <sup>U</sup>	1200 <sup>V</sup>	150 <sup>W</sup>	1000 <sup>W</sup>	√ <sup>X</sup>	√
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ZEBRA in addition to FORTRAN.

*	*	—	—	25 <sup>T</sup>	200 <sup>U</sup>	20 <sup>U</sup>	—	60 <sup>W</sup>	120 <sup>W</sup>	√	—
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numbers not yet available. W. Indicates speed in characters per second. Model numbers not yet available.

† X - all except: B - byte manipulation, D - double precision, E - translate-edit capability, F - floating-point instructions, H - hardware multiply-divide, L - logical operations.  
‡ X - all except: A - base address relocation, C - clock, I - program interrupt, M - memory protection, P - dynamic page relocation, S - supervisor mode.  
§ G - batch, R - real-time, T - time-sharing.  
— none, \* see Section II B, \* information unavailable.

SECTION II

**PERIPHERAL  
DEVICES**

**Part A**

Auxiliary Storage . . . . .	115
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Card Equipment . . . . .	155
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**SECTION II - PART A**

**CHARACTERISTICS OF DEVICES**

**Auxiliary Storage**

**EXPLANATION OF COLUMN HEADINGS**

*Unit Rental*

Monthly The monthly rental price of a single unit, including required control devices. A factor of forty is used for deriving rentals when only purchase prices are available.

*Type*

The type of access to storage used: fixed (F) or movable (M) head.

*Character Size*

The number of binary digits in a single character in the storage device.

*Sectors*

The smallest addressable portion of an auxiliary storage track or band.

*Tracks (Bands)*

The portion of auxiliary storage which can be accessed without incurring seek time delays.

*Unit*

Capacity in Millions of Characters The total storage capacity of a single storage unit.

*Access Time*

Seek Time in Milliseconds Minimum - Maximum The time required to make the auxiliary storage unit ready to access a specified location by selection or positioning. The range is from the minimum time for the best possible case to the maximum time for the worst possible case.

Rotational Time in Milliseconds The time required for the unit to make one complete revolution.

*Parity*

A check (✓) indicates that parity is verified by the unit on data readout.

*Transfer Rate*

Thousands of Characters per Second The speed at which data may be read from or written to the unit, exclusive of seek or latency delays.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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#### ADVANCED SCIENTIFIC 60611

Modified version of Burroughs B475 disc file.

#### ADVANCED SCIENTIFIC 60711

Modified version of Vermont Research Ten-Inch drum.

#### ADVANCED SCIENTIFIC 60751

Modified version of Vermont Research Fifteen-Inch drum.

#### BRYANT 4000 SERIES

*	8 <sup>C</sup>	*	—	1.8	472	30-180	√	142.5
M		*	76800			50		

C. Variable to suit customer's needs.

#### BRYANT 5000 SERIES

*	8 <sup>C</sup>	*	288	1.5	1.45	—	√	315
F		*	288			5		

C. See 4000 series.

#### BRYANT 10000 SERIES

*	8 <sup>C</sup>	*	576	3.1	1.8	—	√	252
F		*	576			12.5		

C. See 4000 series.

#### BRYANT 75000 SERIES

*	8 <sup>C</sup>	*	288	.23	.68	—	√	235
F		*	288			10		

C. See 4000 series.

#### BRYANT 185000 SERIES

*	8 <sup>C</sup>	*	1024	5.8	5.9	—	√	347
F		*	1024			16.7		

C. See 4000 series.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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#### BRYANT PHD SERIES

*	8 <sup>C</sup>	*	*	7.8	43.2	22-50	√	1200
M		*	5504			33.3		

C. See 4000 series.

#### BURROUGHS 9372 DISC FILE

850	8	85	150	8.3	10	—	√	200
F		100	1200			40		

#### BURROUGHS B430

1700	56	6	64	512	.032	—	√	123
F		86	64			17		

#### BURROUGHS B475 DISC FILE

1700	48	32 <sup>D</sup>	150	7.68 <sup>H</sup>	9.6	—	√	100
F		240	1200			40		

D. For middle zone; 24 and 44, respectively, for inner and outer zones.  
H. For middle zone; 5.76 and 10.56, respectively, for inner and outer zones.

#### COLLINS 8871A SERIES

Modified versions of Bryant 4000C series.

#### COLLINS 8873A SERIES

Modified versions of Bryant 18500 series.

#### CONTROL DATA 813

3450	6	32	*	8	100	34-110	√	196
M		256	12288			50.8		

#### CONTROL DATA 814

5500	6	32	*	8	200	34-110	√	196
M		256	24576			50.8		

— none, \* information unavailable.



Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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**CONTROL DATA 852**

390	M	7	20	100	100	2	1000	2	30-145	40	✓	77.7
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**CONTROL DATA 853**

350	M	6	16	256	100	4	1000	4.1	30-145	25	✓	208
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**CONTROL DATA 854**

520	M	6	16	256	200	4	2000	8.2	30-165	25	✓	208
-----	---	---	----	-----	-----	---	------	-----	--------	----	---	-----

**CONTROL DATA 863**

2750	F	6	*	*	832	*	832	4	—	34	✓	2000
------	---	---	---	---	-----	---	-----	---	---	----	---	------

**CONTROL DATA 1751**

780 <sup>A</sup>	F	8	*	*	*	*	*	.5	—	17	✓	250
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A. No rental price announced. Price derived from purchase price.

**CONTROL DATA 6603**

5900	M	6	128 <sup>D</sup>	704	512	90 <sup>H</sup>	1024	74.7	201-268	66.7	✓	143 <sup>N</sup>
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D. For two outer zones; 100 for two inner zones. H. For two outer zones; 70.4 for two inner zones. N. For two outer zones; 111 for two inner zones.

**CONTROL DATA 8951**

790	F	12	2	512	32	1	32	.03	—	34	✓	32
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**CONTROL DATA 8952**

1050	F	12	2	512	64	1	64	.06	—	34	✓	32
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**AUXILIARY STORAGE CHARACTERISTICS**

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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**DATA DISC F SERIES**

312 <sup>A</sup>	F	8 <sup>C</sup>	*	*	64	64	12.5	.75	1	33.4	✓	350
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A. No rental price announced. Price derived from purchase price.  
C. Variable to suit customer's needs.

**DATA PRODUCTS 5022**

4730	M	8 <sup>C</sup>	64 <sup>D</sup>	55	*	8192	3.4	27.5	55-250	52	✓	700
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C. Variable to suit customer's needs. D. Variable from four to 64.

**DATA PRODUCTS 5025**

6780	M <sup>B</sup>	8 <sup>C</sup>	64 <sup>D</sup>	55	*	8192	3.38	27.5	55-250	52	✓	1400
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B. 96 fixed heads optionally available. C, D. See 5022.

**DATA PRODUCTS 5026**

5455	M	8 <sup>C</sup>	64 <sup>D</sup>	55	*	8192	3.38	27.5	55-250	52	✓	700
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C, D. See 5022.

**DATA PRODUCTS 5045 II**

7150	M	8 <sup>C</sup>	64 <sup>D</sup>	110	*	8192	6.7	54.5	50-250	52	✓	2400
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C, D. See 5022.

**DATA PRODUCTS 5045 III**

7855	M	8 <sup>C</sup>	64 <sup>D</sup>	110	*	16384	6.7	109	50-250	52	✓	2400
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C, D. See 5022.

**DIGITAL DEVELOPMENT 7301/1**

*	M	6	*	*	128	5	128	.6	*	17	✓	300
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— none. \* information unavailable.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>DIGITAL DEVELOPMENT 7301/2</b>												
*	M	6	*	*	128	5	1.28	*		17	✓	300
						256						
<b>DIGITAL DEVELOPMENT 7302/4</b>												
*	M	6	*	*	128	5	2.56	*		17	✓	300
						512						
<b>DIGITAL DEVELOPMENT 7303/8</b>												
*	M	6	*	*	128	5	5.12	*		17	✓	300
						1024						
<b>DIGITAL EQUIPMENT 24</b>												
Modified version of Vermont Research Ten-Inch drum.												
<b>DIGITAL EQUIPMENT 251</b>												
Modified version of Vermont Research Fifteen-Inch drum.												
<b>DIGITAL EQUIPMENT 270</b>												
Modified version of Data Products 5022.												
<b>DIGITAL EQUIPMENT RM08</b>												
Modified version of Vermont Research Ten-Inch drum.												
<b>DIGITAL EQUIPMENT RM09</b>												
Modified version of Vermont Research Fifteen-Inch drum.												
<b>EAI 250 SERIES</b>												
Modified versions of Data Disc F series.												
<b>EAI 8492</b>												
Modified version of Control Data 853.												
<b>EAI 8494</b>												
Modified version of Librascope 3800.												

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>GENERAL ELECTRIC 160</b>												
590	M	6	10		200	3.8	7.68		30-165		✓	208
					384	2000				52		
<b>GENERAL ELECTRIC 200</b>												
3435	F	6	32		400	12	4.7		—		✓	370
					385	400				34		
<b>GENERAL ELECTRIC 204</b>												
1170	M	6	8 <sup>D</sup>		250	2 <sup>H</sup>	23.4		95-305		✓	62.5
					256	2048				52		
D. For inner tracks; 16 for outer tracks. H. For inner tracks; four for outer tracks.												
<b>GENERAL ELECTRIC 300</b>												
4160	F	6	16		1000	6.1	6		—		✓	371
					384	1000				17		
<b>GENERAL ELECTRIC 338</b>												
3855	M	6	*		64	2.6	341		145-170		✓	80
					*	131072				60		
Note: Unit is card random-access system.												
<b>GENERAL ELECTRIC 4220</b>												
700	F	24	*		260	1	.26		—		✓	31
					*	260				16		
<b>GENERAL ELECTRIC 4548/1</b>												
690	M	24	16		100	1	1	*			✓	52
					64	1000				25		
<b>GENERAL ELECTRIC 4548/2</b>												
1130	M	24	16		100	1	2	*			✓	52
					64	2000				25		

#### AUXILIARY STORAGE CHARACTERISTICS

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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### HONEYWELL 256

600 <sup>A</sup>	6	*	*	*	4.58	9.16	25-145	— <sup>N</sup>	280
M			*		2030		25		

A. Control unit is additional 545. N. Validity-check for reading operations. Verify-read and file-product for writing operations.

### HONEYWELL 258

365 <sup>A</sup>	6	*	*	*	4.58	4.58	25-165	— <sup>N</sup>	208
M			*		1000		25		

A, N. See 256.

### HONEYWELL 259

515 <sup>A</sup>	6	*	*	*	4.58	9.16	25-165	— <sup>N</sup>	208
M			*		2030		25		

A, N. See 256.

### HONEYWELL 259A

475 <sup>A</sup>	6	*	*	*	4.58	9.16	25-165	— <sup>N</sup>	130
M			*		2030		40		

A, N. See 256. Note. Available only on certain Honeywell 200 series central processors.

### HONEYWELL 270A/1

1030	6	40	512	5.12	2.6	—	— <sup>N</sup>	111
F			128	512			53	

N. Validity-check for reading operations. Manual switches allow or inhibit writing.

### HONEYWELL 270A/2

1740	6	40	512	5.12	5.2	—	— <sup>N</sup>	111
F			128	512			53	

N. See 270A/1.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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### HONEYWELL 270A/3

2450	6	40	512	5.12	7.8	—	— <sup>N</sup>	111
F			128	512			53	

N. See 270A/1.

### IBM 1301/1, 2

3000 <sup>A</sup>	6	*	5000	2.8	28 <sup>J</sup>	50-180	—	90
M		*	10000 <sup>G</sup>			34		

A. 4,400 for Model 2. G. 20,000 for Model 2. J. 56 for Model 2.

### IBM 1301/11, 12, 21, 22

2350 <sup>A</sup>	6	20	5000	2.5	25.4 <sup>J</sup>	50-180	—	77
M			100	10000 <sup>G</sup>		34		

A. 3,850 for Models 12 and 22. G. 20,000 for Models 12 and 22. J. 50.8 for Models 12 and 22.

### IBM 1302/N1, N2

*	8	*	300	5	58 <sup>J</sup>	50-180	—	156
M		*	11700 <sup>G</sup>			34		

G. 23,400 for Model N2. J. 116 for Model N2.

### IBM 1311

400 <sup>A</sup>	6	*	100	2	2	250-400	—	77
M		*	10000			*		

A. Up to 1,050 depending on number of drives.

### IBM 1405/1, 2

1000 <sup>A</sup>	6	5	200	1	10 <sup>J</sup>	*	—	*
M			200	10000 <sup>G</sup>		*		

A. 1,575 for Model 2. G. 20,000 for Model 2. J. 20 for Model 2.

### IBM 2301

4650	8	*	200	20.5	4	—	—	1200
F		*	200				17.5	

— none, \* information unavailable.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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### IBM 2302/1, 2

6450 <sup>A</sup>	8	*	*	500	5	113 <sup>J</sup>	50-180	—	156
M			*		20000 <sup>G</sup>		34		

A. 8,750 for Model 2. G. 40,000 for Model 2. J. 226 for Model 2.

### IBM 2303

3500	8	*	*	800	5	4	—	—	312
F			*	800			17		

### IBM 2310/A1, A2, A3

375 <sup>A</sup>	16	*	*	100	2.5	.5	35-520	√	36
M			*	200			*		

A. 600 for Model A2 and 875 for Model A3. Note: One, two and three drives for Models A1, A2 and A3, respectively.

### IBM 2311/11, 12

*	8	—	—	100	2.7	2.7 <sup>J</sup>	30-185	—	156
M			—	1000 <sup>G</sup>			25		

G. 2,000 for Model 12. J. 5.4 for Model 12.

### IBM 2314

5400	8	*	*	200	7.1	20	25-135	—	312
M			*	3600			25		

### LIBRASCOPE 3800

*	8 <sup>C</sup>	*	*	4196	5.8	25	—	√	141
F			*	4196			30		

C. Variable to suit customer's needs.

### LIBRASCOPE 4800

*	8 <sup>C</sup>	*	*	5484	9.9	50	—	√	141
F			*	5484			70		

C. See 3800.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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### LIBRASCOPE L110-8/1

2495 <sup>A</sup>	8 <sup>C</sup>	*	*	49	6.1	.04	—	—	—
F			*	49			34	√	.045

A. Excluding electronics. C. See 3800.

### LIBRASCOPE L210-8/3

5995 <sup>A</sup>	8 <sup>C</sup>	*	*	132	2	.026	—	—	—
F			*	132			34	√	.125

A. See L110-8/1. C. See 3800.

### LIBRASCOPE L416-17/21

500	8 <sup>C</sup>	*	*	270	6	1.5	—	—	—
F			*	270			34	—	.19

C. See 3800.

### LIBRASCOPE L416-17/41

800	8 <sup>C</sup>	*	*	540	6	3	—	—	—
F			*	540			34	—	.19

C. See 3800.

### LIBRASCOPE L424-17/41

1300	8 <sup>C</sup>	*	*	1080	6	6	—	—	—
F			*	1080			34	—	.19

C. See 3800.

### NCR 353/1

950	12 <sup>C</sup>	*	*	7 <sup>F</sup>	1.5	2.7	200	—	—
M			*	1792			43	√	50

C. 12-bit slabs are either two six-bit characters or three four-bit digits. F. Indicates number of tracks per card. Note. Storage unit is a Card Random Access Memory File (CRAM).

## AUXILIARY STORAGE CHARACTERISTICS

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>NCR 353/2</b>												
700		12 <sup>c</sup>	*		56 <sup>F</sup>	.56	4	200			✓	19
	M		*			7168			43			

C, F, Note. See 353/1.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>NCR 353/3</b>												
825		12 <sup>c</sup>	*		56 <sup>F</sup>	.56	8	200			✓	19
	M		*			14336			43			

C, F, Note. See 353/1.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>NCR 353/5</b>												
1350		12 <sup>c</sup>	*		144	.56	30	110			✓	19
	M		*			53000			43			

C, F, Note. See 353/1.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>PHILCO 272</b>												
Modified version of Bryant 4000 series.												

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>PHILCO 315</b>												
Modified version of Bryant 185000 series.												

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>RCA 70/564</b>												
575		8	1	10	3.66	7.25	30-145				✓	156
	M			3660	2030		25					

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>RCA 70/565-12, 13</b>												
1500		8	1	512	3.1	.8	—				✓	210
	F			3096	512		17.2					

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>SCIENTIFIC CONTROL 5625, 6625</b>												
*		12	*	*	*	.25	17				—	*
	M		*	*	*							

Note. Unit not manufactured by Scientific Control.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>SCIENTIFIC DATA 7201</b>												
7500		8	8		8000	2.9	24				✓	180
	F			360	8000		35					

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>SCIENTIFIC DATA 7211</b>												
8500		8	64		2000	16	33				✓	2000
	F			256	2000		35					

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>SCIENTIFIC DATA 9164</b>												
Modified version of Data Disc F series.												

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>SCIENTIFIC DATA 9366/67</b>												
4000		6	8		4000	2	8				✓	468
	F			256	4000		35					

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>SEL 80-653A</b>												
Modified version of Control Data 8951.												

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>UNIVAC FH330</b>												
1655		18	*	*	*	3.9	—				✓	75
	F		*	*	*		34					

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>UNIVAC FH432</b>												
820		30	*	*	*	1.3	—				✓	1440
	F		*	*	*		8.5					

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>UNIVAC FH880</b>												
1645		30	*	*	*	3.9	—				✓	360
	F		*	*	*		34					

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>UNIVAC FH1782</b>												
2265		30	*		1760	49	2				✓	1440
	F		*		1760		34					

— none, \* information unavailable.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum—Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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#### UNIVAC FR II (FASTRAND)

3165	M	30	64	180	64	6144	10752	132	30-86	35	✓	156
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#### UNIVAC UNIDISC

320	M	6	*	*	*	*	6-9	1	49-241	50	—	200
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#### VERMONT RESEARCH TEN-INCH

*	F	8 <sup>c</sup>	*	*	2048	2048	3.75	7.7	—	17	✓	1300
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C. Variable to suit customer's needs.

#### VERMONT RESEARCH FIFTEEN-INCH

*	F	8 <sup>c</sup>	*	*	2048	2048	5.6	11.5	—	17	✓	3000
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C. See Ten-inch.

#### VERMONT RESEARCH TWENTY-INCH

*	F	8 <sup>c</sup>	*	*	2048	2048	7.5	15.4	—	34	✓	2000
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C. See Ten-inch.

#### England

#### EELM 4425

*	M	6	10	288	*	2000	2.88	5.75	30-145	25	—	156
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#### EELM 4430

*	F	6	*	*	*	*	1	—	—	40	—	820
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#### AUXILIARY STORAGE CHARACTERISTICS

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum—Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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#### EELM 4440

*	M	6	4	2100	*	16000	93	300	20-110	40	—	275
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#### EELM MH1

*	M	6	*	*	*	500	.68	.32	10	20	✓	409
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#### EELM MH2

*	M	6	*	*	*	8448	3.7	32	185	60	✓	45-90
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#### ELLIOTT MH1

*	M	6	25	256	100	600	.4	.64	110	50	✓	135
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#### ICT 1962

— <sup>A</sup>	F	6	*	*	128	128	1	.13	—	20	✓	50
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A. Prices quoted only on a particular system configuration.

#### ICT 1963

— <sup>A</sup>	F	6	*	*	256	256	2	.5	—	20	✓	100
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A. See 1962.

#### ICT 1964

— <sup>A</sup>	F	6	*	*	512	512	4	2	—	40	✓	100
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A. See 1962.

#### ICT 2801

— <sup>A</sup>	M	6	8	512	100	1000	4	4	85	25	✓	208
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A. See 1962.

— none, \* information unavailable.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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**ICT 2802**

—A	6	8	200	4	8	85	√	208
M		512	2000	25				

A. See 1962.

**ICT 2805**

—A	6	256	*	33	419	65-240	√	150
M		128	12800	50				

A. See 1962.

*Germany (West)*

**SIEMENS 564**

630	8	*	20	3.6	7.25	87.5	—	156
M		*	200			*		

**SIEMENS 565**

2815	8	*	512	3	1.56	—	—	175
F		*	512	10.3				

**SIEMENS 2013**

750	6	*	64	4	.26	—	—	72
F		*	64	32				

**SIEMENS 2014**

900	6	*	128	4	.52	—	—	72
F		*	128	32				

**SIEMENS 2015**

1050	6	*	256	4	1	—	—	72
F		*	256	32				

**SIEMENS 2026**

1120	6	*	*	*	7.2	88	—	208
M		*	*					

Unit Rental Monthly	Type	Character Size	Sectors Number per Track	Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit	Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
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**ZUSE 59**

275	6	*	*	*	*	.05	—	—	—	—	—	124
F		*	*	*			5					

**ZUSE 5022**

2700	6	*	*	*	*	33.5	*	—	—	—	—	300
M		*	*	*			200 <sup>L</sup>					

L. Indicates total access time.

**ZUSE 5024**

3300	6	*	*	*	*	30	*	—	—	—	—	300
M		*	*	*			200 <sup>L</sup>					

L. See 5022.

**ZUSE 7300**

5400	6	*	*	*	*	6.8	*	—	—	—	—	1000
M		*	*	*			10 <sup>L</sup>					

L. See 5022.

*Japan*

**FUJITSU FACOM 622/B, C**

*	9	*	*	*	*	.13	—	—	—	—	√	25
F		*	*	*			20					

**FUJITSU FACOM 624A**

*	9	*	*	*	*	2	—	—	—	—	√	50
F		*	*	*			40					

**NIPPON ELECTRIC 523**

605	*	*	200	.05	.01	—	—	—	—	—	√	12.5
F		*	200				45					

**NIPPON ELECTRIC 544/1**

*	*	*	*	*	*	12	33-86	—	—	—	√	39-97
M		*	*	*			67					

— none, \* information unavailable.

Unit Rental Monthly	Type	Character Size	Sectors Number per Track Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>NIPPON ELECTRIC E261</b>										
250	*	*	*	*	.8	200	33	✓	70	
M			*	*						
<b>NIPPON ELECTRIC E271</b>										
167	*	*	64	1.25	.08	—	17	✓	103	
F			*	64						
<b>NIPPON ELECTRIC N259</b>										
513	*	*	*	*	9.6	97.5	25	✓	208	
M			*	*						
<b>NIPPON ELECTRIC N260A</b>										
*	*	*	*	*	134	25-220	50	✓	69-119	
M			*	*						
<b>NIPPON ELECTRIC N271</b>										
638	*	*	512	5	2.6	—	55	✓	106	
F			*	512						
<b>NIPPON ELECTRIC N271A</b>										
500	*	*	256	1.25	.327	—	17	✓	103	
F			*	256						
<b>NIPPON ELECTRIC N460A, N860A</b>										
*	*	*	*	*	16.7	25-200	50	✓	7.7-13.5	
M			*	*						
<b>NIPPON ELECTRIC N460B, N860B</b>										
*	*	*	*	*	67	25-200	50	✓	7.7-13.5	
M			*	*						
<b>TOSHIBA 204</b>										
*	8	*	256	6	23.5	225	—	80		
M			*	4094			*			

Unit Rental Monthly	Type	Character Size	Sectors Number per Track Capacity per Sector in Characters	Tracks (Bands) Number per Cylinder	Number per Unit Capacity per Track in Thousands of Characters	Unit Capacity in Millions of Characters	Access Time Seek Time in Milliseconds Minimum — Maximum	Rotational Time in Milliseconds	Parity	Transfer Rate Thousands of Characters per Second
<b>TOSHIBA 216</b>										
2240	8	*	256	7	28	180	—	62.5		
M			*	4096			50			
<b>TOSHIBA 250</b>										
*	8	*	256	25	200	116	—	300		
M			*	8192			*			
<b>TOSHIBA 600</b>										
*	8	*	320	26	7.8	96	—	259		
M			*	320			*			
<b>TOSHIBA 731A</b>										
*	8	*	200	8	9.67	85	—	156		
M			*	1200			25			
<b>TOSHIBA 731C</b>										
1000	8	*	524	1	.524	8.3	—	400		
M			*	524			16			
<b>TOSHIBA 771C</b>										
792	8	*	325	.12	.04	—	—	*		
F			*	325			17			
<b>TOSHIBA 772G</b>										
*	8	*	64	1	.065	—	—	*		
F			*	64			17			
<b>TOSHIBA 5116</b>										
—	8	—	200	6	7.25	97.5	—	156		
M			—	1200			25			
<b>TOSHIBA F7000</b>										
*	8	*	512	5	.26	—	—	*		
F			*	512			17			
<b>TOSHIBA M7000</b>										
*	8	*	*	*	23.5	225	—	21		
M			*	*			*			

— none, \* information unavailable.



# Magnetic Tape

## EXPLANATION OF COLUMN HEADINGS

### *Unit Rental*

Monthly The monthly rental price of a single unit, exclusive of independent control devices. A factor of forty is used for deriving rentals when only purchase prices are available.

### *Transfer Rate*

Thousands of Characters per Second — Range The speed at which data may be read from or written to the device, from the lowest to the highest speed and density available.

### *Speed*

in Inches per Second The rate at which the tape moves past the recording head during a data transfer.

### *Dimensions*

Density in Bits per Inch The number of bits which may be written per inch in a single track.

Tracks The number of bits which may be written in a single position across the width of the tape, including parity bits.

Width in Inches The physical width of the magnetic tape used by the unit.

Interrecord Gap in Inches The length of the unused recording area between records written by the unit.

*Read Reverse* A check (✓) indicates that the unit can read tape under program control in either direction.

*Control Unit* The unit, including associated buffering, for controlling the operation of the magnetic tape transport.

Monthly Rental The monthly rental price of the control unit only.

Number of Devices The number of tape transports which can be attached to a single control unit.

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>ADAGE MTP</b>									
*	10-96	50-120	200 556 800	7	.5	.75	—	— <sup>J</sup>	3

J. Each device contains its own control unit.

#### ADVANCED SCIENTIFIC 60501

Modified version of Potter 906 Mark II.

#### ADVANCED SCIENTIFIC 60517

Modified version of Potter SC series.

#### ADVANCED SCIENTIFIC 60537, 60545

Modified versions of Datamec D2020, D3030.

#### ADVANCED SCIENTIFIC A-11

Modified version of Potter 906 Mark II.

#### AMPEX TM7

*	2-36	45	200 556 800	7 <sup>E</sup>	.5	.75 <sup>G</sup>	√	—	—
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E. Nine also possible. G. .6 also possible.

#### AMPEX TM9

*	9-60	75	200 556 800	7 <sup>E</sup>	.5	.75 <sup>G</sup>	√	—	—
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E, G. See TM7.

#### AMPEX TM11

*	12-96	120	200 556 800	7 <sup>E</sup>	.5	.75 <sup>G</sup>	√	—	—
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E, G. See TM7.

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>AMPEX TM12</b>									
*	12-120	150	200 556 800	7 <sup>E</sup>	.5	.75 <sup>G</sup>	√	—	—

E, G. See TM7.

#### AUTONETICS M906

400	1.85	9.25	200	7	.5	.75	—	—	—
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#### BURROUGHS 9381

900	9-36	45	200 800	9	.5	.75	√	200	4
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#### BURROUGHS 9382

1100	9-72	45	200 800 1600	9	.5	.75	√	200	4
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#### BURROUGHS 9390

480	18-50	90	200 556	7	.5	.75	√	250	1
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#### BURROUGHS 9391

575	18-72	90	200 556 800	7	.5	.75	√	250	1
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#### BURROUGHS 9392

575	18-72	90	200 800	7	.5	.75	√	450	—
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#### BURROUGHS 9393

650	18-144	90	200 800 1600	7	.5	.75	√	450	1
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— none, \* information unavailable.

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>BURROUGHS B421</b>									
700	18-50	90	200 556	7	.5	.75	√	155	6
<b>BURROUGHS B422</b>									
800	24-66.6	120	200 556	7	.5	.75	√	155	6
<b>BURROUGHS B423</b>									
495	24	120	200	7	.5	.75	√	155	6
<b>BURROUGHS B425</b>									
850	18-72	90	200 556 800	7	.5	.75	√	155	6
<b>COLLINS 8046</b>									
Modified version of Potter 906 Mark II.									
<b>COLLINS 8841A/1</b>									
Modified version of Control Data 163.									
<b>CONTROL DATA 163</b>									
1000	30	150	200	7	.5	.75	—	— <sup>J</sup>	1
J. Each device contains its own control unit.									
<b>CONTROL DATA 164</b>									
890	15	75	200	7	.5	.75	—	— <sup>J</sup>	1
J. See 163.									
<b>CONTROL DATA 601</b>									
300	7.5-20.8	37.5	200 556	7	.5	.75	—	335	8
<b>CONTROL DATA 603</b>									
870	15-41.7	75	200 556	7	.5	.75	—	530	4

MAGNETIC TAPE CHARACTERISTICS

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>CONTROL DATA 604</b>									
630	15-60	75	200 556 800	7	.5	.75	√	1450	8
<b>CONTROL DATA 606</b>									
580	30-83.4	150	200 556	7	.5	.34	—	740	8
<b>CONTROL DATA 607</b>									
920	30-120	150	200 556 800	7	.5	.75	√	1450	8
<b>CONTROL DATA 626</b>									
1150	240	150	800	14	1.0	1.0	—	590	4
<b>CONTROL DATA 1607</b>									
5300 <sup>A</sup>	30	150	200	7	.5	.75	√	— <sup>J</sup>	4
A, J. Rental price includes control and four transports.									
<b>DATAMEC D2020</b>									
*	9-36	45	200 556 800	7 <sup>E</sup>	.5	.75	√	—	—
E. Nine also possible.									
<b>DATAMEC D3030</b>									
*	15-60	75	200 556 800	7 <sup>E</sup>	.5	.75	√	—	—
E. See D2020.									
<b>DIGITAL EQUIPMENT 50</b>									
Modified version of Potter 906 Mark II.									

— none, \* information unavailable.

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
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### DIGITAL EQUIPMENT 545

Modified version of Datamec D2020.

### DIGITAL EQUIPMENT TU55 DECTAPE

59<sup>A</sup> 15 80 —<sup>D</sup> 10<sup>E</sup> .62 — √ 185<sup>J</sup> 8

A, J, No rental price announced. Price derived from purchase price. D. Variable. E. Two sets of redundant tracks. Each set includes three data tracks, one word mark track and one timing track.

### EAI 8470 SERIES

Modified versions of Ampex TM7, 9, 11 and 12.

### GENERAL ELECTRIC 200, 300

305<sup>A</sup> 7-15<sup>B</sup> 36 200<sup>D</sup> 7 .5 .75 — 940<sup>J</sup> 8  
556

A. 420 for 300. B. 28 maximum for 300. D. 800 maximum for 300. J. Single-channel; dual-channel control available for 1,495.

### GENERAL ELECTRIC 201, 301

505<sup>A</sup> 15-42<sup>B</sup> 75 200<sup>D</sup> 7 .5 .75 — 940<sup>J</sup> 8  
556

A. 615 for 301. B. 60 maximum for 301. D. 800 maximum for 301. J. See 200.

### GENERAL ELECTRIC 211, 311

730<sup>A</sup> 30-83<sup>B</sup> 150 200<sup>D</sup> 7 .5 .75 — 940<sup>J</sup> 8  
556

A. 845 for 311. B. 120 maximum for 311. D. 800 maximum for 311. J. See 200.

### GENERAL ELECTRIC 402, 403

305<sup>A</sup> 10-28<sup>B</sup> 37.5 200<sup>D</sup> 7<sup>E</sup> .5 .6 — 1010<sup>J</sup> 8  
556

A. 420 for 403. B. 40 maximum for 403. D. 800 maximum for 403. E. Nine also possible. J. Single-channel; dual-channel control available for 1,545.

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
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### GENERAL ELECTRIC 404, 405

505<sup>A</sup> 20-56<sup>B</sup> 75 200<sup>D</sup> 7<sup>E</sup> .5 .6 — 1010<sup>J</sup> 8  
556

A. 615 for 405. B. 80 maximum for 405. D. 800 maximum for 405. E, J. See 402.

### GENERAL ELECTRIC 411, 412

730<sup>A</sup> 40-111<sup>B</sup> 150 200<sup>D</sup> 7<sup>E</sup> .5 .6 — 1010<sup>J</sup> 8  
556

A. 845 for 412. B. 160 maximum for 412. D. 800 maximum for 412. E, J. see 402.

### GENERAL ELECTRIC 680

850 15 75 200 7 .5 .75 — 800 8

### GENERAL ELECTRIC 690

1030 15-42 75 200 7 .5 .75 — 1030 8  
556

### HONEYWELL 40 SERIES

Modified versions of Control Data 600 series.

### HONEYWELL 204A/1

450 31.76 60 400<sup>D</sup> 10 .75 .67 — 265 4

D. Density in eight-bit frames per inch.

### HONEYWELL 204A/2

900 63.52 120 400<sup>D</sup> 10 .75 .67 — 265 4

D. See 204A/1.

### HONEYWELL 204A/3

900 88.8 120 556<sup>D</sup> 10 .75 .67 — 380 4

D. See 204A/1.

## MAGNETIC TAPE CHARACTERISTICS

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>HONEYWELL 204B/1, 2</b>									
335 <sup>A</sup>	7.2-20	36	200 556	7	.5	.45	√	405	8 <sup>K</sup>
A. 290 for Model 2. seven 204B/2 units.		K. Control accommodates one 204B/1 and up to							
<b>HONEYWELL 204B/3, 4</b>									
475 <sup>A</sup>	16-44.5	80	200 556	7	.5	.6	√	405	8 <sup>K</sup>
A. 425 for Model 4. seven 204B/4 units.		K. Control accommodates one 204B/3 and up to							
<b>HONEYWELL 204B/5</b>									
670	24-66.7	120	200 556	7	.5	.7	√	405	8
<b>HONEYWELL 204B/7</b>									
380	20-28.8	36	200 556 800	7	.5	.45	√	405	8
<b>HONEYWELL 204B/8</b>									
570	44.5-64	80	200 556 800	7	.5	.6	√	405	8
<b>HONEYWELL 204B/9</b>									
760	66.7-96	120	200 556 800	7	.5	.7	√	405	8
<b>HONEYWELL 204B/11, 12</b>									
265 <sup>A</sup>	13.3	24	200 556	7	.5	.45	√	290	4 <sup>K</sup>
A. 210 for Model 12. three 204B/12 units.		K. Control accommodates one 204B/11 and up to							

**MAGNETIC TAPE CHARACTERISTICS**

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>HONEYWELL 204C/13, 14</b>									
425	28.8	36	800	9	.5	.6	—	350	2 <sup>K</sup>
K. Control accommodates one 204C/13 and one 204C/14.									
<b>HONEYWELL 404/1</b>									
900	64	120	400	10	.75	.67	—	— <sup>J</sup>	— <sup>K</sup>
J. Control is physically in central processor. 16 on Honeywell 1400.		K. Eight on Honeywell 400; 16 on Honeywell 1400.							
<b>HONEYWELL 404/2</b>									
900	88.67	120	555	10	.75	.67	—	— <sup>J</sup>	— <sup>K</sup>
J, K. See 404/1.									
<b>HONEYWELL 404/3</b>									
450	32	60	400	10	.75	.67	—	— <sup>J</sup>	— <sup>K</sup>
J, K. See 404/1.									
<b>HONEYWELL 804/1</b>									
900	64	120	400	10	.75	.67	√	2000	8
<b>HONEYWELL 804/2</b>									
900	88.87	120	555	10	.75	.67	√	3100	8
<b>HONEYWELL 804/3</b>									
450	32	60	400	10	.75	.67	√	2000	8
<b>HUGHES H-3107</b>									
Modified version of Datamec D3030.									
<b>IBM 729/2, 5</b>									
725 <sup>A</sup>	15-41.7 <sup>B</sup>	75	200 <sup>D</sup> 556	7	.5	.75	—	— <sup>J</sup>	6 <sup>K</sup>
A. 775 for Model 5.		B. 60 maximum for Model 5.		D. 800 maximum for Model 5.		J. Varies from 1,000 to 4,350 depending on central processor used.			
K. Up to ten depending on central processor used.									

— none, \* information unavailable.

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
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### IBM 729/4, 6

930 <sup>A</sup>	22-62 <sup>B</sup>	112.5	200 <sup>D</sup> 556	7	.5	.75	—	— <sup>J</sup>	10 <sup>K</sup>
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A. 1,000 for Model 6. B. 90 maximum for Model 6. D. 800 maximum for Model 6. J, K. See 729/2, 5.

### IBM 2401, 2402, 2403, 2404

— <sup>A</sup>	30-180	37.5 <sup>C</sup>	800 1600	7 <sup>E</sup>	.5	.6	√	— <sup>J</sup>	8 <sup>K</sup>
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A. Varies from 1,350 to 1,750 depending on model used. C. 75 and 112.5 also possible. E. Nine also possible. J. Variable depending on central processor used. K. Seven for 2403 and 2404.

### IBM 2415/1, 2, 3, 4, 5, 6

— <sup>A</sup>	15 <sup>B</sup>	18.75	800 <sup>D</sup>	7 <sup>E</sup>	.5	.6	√	—	2 <sup>K</sup>
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A. Varies from 775 to 2,075 depending on model used. B. 30 maximum for Models 4, 5 and 6. D. 1,600 maximum for Models 4, 5 and 6. E. See 2401. K. Four for Models 2 and 5; and six for Models 3 and 6.

### IBM 7330

475	7-20	36	200 556	7 <sup>E</sup>	.5	.75	—	— <sup>J</sup>	6 <sup>K</sup>
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E. See 2401. J. Varies from 500 to 1,500 depending on central processor used. K. Six if attached to a 1401 or 1460; ten if attached to a 1410, 7010, 7040 or 7044.

### IBM 7335

700 <sup>A</sup>	20	36	556	7 <sup>E</sup>	.5	.75	—	—	2
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A. 1,100 for Model 2. E. See 2401.

### IBM 7340

1300 <sup>A</sup>	170-340	112.5	1511 3022	9	1	.38	√	— <sup>J</sup>	4 <sup>K</sup>
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A. 1,050 for Model 2 and 1,350 for Model 3. J. Varies from 2,150 to 3,475 depending on central processor used. K. Up to 20 depending on central processor used.

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
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### MIDWESTERN 4000 SERIES

* 40-120	150		200 556 800	7 <sup>E</sup>	.5	.75	√	—	—
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E. Nine also possible.

### NCR 332/204

700	24-66	120	200 556	7	.5	.75	—	— <sup>J</sup>	1
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J. Each device contains its own control unit.

### NCR 333/101, 102

975 <sup>A</sup>	83-120 <sup>B</sup>	150	556 800	7	.5	.75	—	— <sup>J</sup>	1
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A. 825 for 333/102. B. 30-83 for 333/102. J. See 332/204.

### NCR 334/103

225	12-33	60	200 556	7	.5	.75	—	75	4
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### PHILCO 137 SERIES

Modified versions of Datamec D2020 and D3030.

### PHILCO 234/2

Modified version of Ampex TM7.

### POTTER 906 MARK II

* 6-120	150		200 556 800	7 <sup>E</sup>	.5	.75 <sup>G</sup>	√	—	—
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E. Nine also possible. G. .6 also possible.

### POTTER MT SERIES

* 6-60	75		200 556 800	7 <sup>E</sup>	.5	.75	√	—	—
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E. See 906 Mark II.

## MAGNETIC TAPE CHARACTERISTICS

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>POTTER SC SERIES</b>									
*	12-120	150	200 556 800 1600	7 <sup>E</sup>	.5 <sup>F</sup>	.75	√	—	—
E. See 906 Mark II. F. 1.0 also possible.									
<b>RCA 70/432</b>									
600	30	37.5	800	9	.5	.6	√	1750	16
<b>RCA 70/442</b>									
900	60	75	800	9	.5	.6	√	1750	16
<b>RCA 70/445</b>									
775	120	150	800	9	.5	.65	√	1750	16
<b>RCA 382/3, 4, 6</b>									
*	20-30	60	556	7	.5	.34	√	*	2
<b>RCA 581</b>									
544	33.3	100	333.3	16	.75	.34	√	— <sup>J</sup>	1
J. Control unit is integral part of tape unit.									
<b>RCA 582</b>									
865	33.3	100	333.3	16	.75	.34	√	— <sup>J</sup>	1
J. See 581.									
<b>RCA 681</b>									
*	120	225	556	9	.75	.34	√	*	1
<b>SCIENTIFIC CONTROL 5415, 6410, 6415</b>									
Modified versions of Datamec D2020.									
<b>SCIENTIFIC CONTROL 6420, 6425</b>									
Modified versions of Datamec D3030.									

MAGNETIC TAPE CHARACTERISTICS

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>SCIENTIFIC DATA 7321</b>									
650	60	75	800	9	.5	.75	√	250	8
<b>SCIENTIFIC DATA 7323</b>									
950	120	150	800	9	.5	.75	√	250	8
<b>SCIENTIFIC DATA 7361</b>									
550	20	60	556	7	.5	.75	—	175	2
<b>SCIENTIFIC DATA 7371</b>									
650	60	75	800	7	.5	.75	—	300	8
<b>SCIENTIFIC DATA 9546</b>									
575	15-42	75	200 556	7	.5	.75	—	265	8
<b>SCIENTIFIC DATA 9546/2</b>									
595	15-60	75	200 556 800	7	.5	.75	—	285	8
<b>SEL 80-615/7, 9, 11, 12</b>									
Modified versions of Ampex TM7, 9, 11, 12.									
<b>UNIVAC IIA</b>									
320	12.5-25	100	125 250	8	.5	1.05 2.40	√	1875	6
<b>UNIVAC IIIA</b>									
535	100-133	100	1000	9	.5	.4-.6	√	585	6
<b>UNIVAC IIIC</b>									
615	22.5-62.5	112	200 556	7	.5	.75	—	1740	8 <sup>N</sup>

— none. \* information unavailable.

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>UNIVAC VIC</b>									
385	8-34	42.7	200 556 800	7 <sup>E</sup>	.5	.75 <sup>G</sup>	√	690	4

E. Nine also possible. G. .6 also possible.

<b>UNIVAC VIIC</b>									
630	24-96	120	200 556 800	7 <sup>E</sup>	.5	.75 <sup>G</sup>	√	1205	16

E, G. See VIC.

### Denmark

<b>REGNOCENTRALEN GIER</b>									
400	7.2-28.8	*	200 556 800	7, 9	.5	.75	—	*	*

### England

<b>EELM 1081</b>									
*	40	100	400	16	.5	.45	√	*	*

<b>EELM 1085</b>									
*	77	100	770	16	.5	.45	√	*	*

<b>EELM 4450</b>									
*	15-60	75	200 556 800	7	.5	.75	√	*	8

<b>EELM 4452</b>									
*	60	150	800	9	.5	.6	√	*	8

### MAGNETIC TAPE CHARACTERISTICS

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>EELM 4453</b>									
*	120	150	800	9	.5	.6	√	*	8
<b>EELM 4454</b>									
*	30	37.5	800	9	.5	.5	√	*	8
<b>EELM MT1</b>									
*	25-45	75	375	7	.5	.75	—	*	*
<b>EELM MT2</b>									
*	60-96	120	800	7	.5	.75	—	*	*
<b>ELLIOTT MT1</b>									
*	4	15	1667	1	.5	1.5	—	*	*
<b>ELLIOTT MT2/A</b>									
*	12	60	1200	7	.5	.75	—	*	*
<b>ELLIOTT MT2/B</b>									
*	33	60	3336	7	.5	.75	—	*	*
<b>ICT 1971</b>									
— <sup>A</sup>	7.5-20.8	37.5	200 556	9	.5	.75	—	— <sup>J</sup>	6

A, J. Prices quoted only on a particular system configuration.

<b>ICT 1972</b>									
— <sup>A</sup>	15-41.7	75	200 556	9	.5	.75	—	— <sup>J</sup>	6

A, J. See 1971.

<b>ICT 1973</b>									
— <sup>A</sup>	15-60	75	200 556 800	9	.5	.75	—	— <sup>J</sup>	6

A, J, K. See 1971.

— none, \* information unavailable.



Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
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#### ICT 1974

—A	24-96	120	200 556 800	9	.5	.75	✓	— <sup>J</sup>	1
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A, J. See 1971.

#### ICT 2501

—A	10	150	533	8	1	—	—	— <sup>J</sup>	4
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A, J. See 1971.

#### Germany (West)

##### SIEMENS 432

675	30	37.5	800	7 <sup>E</sup>	.5	.65	—	*	*
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E. Nine also possible.

##### SIEMENS 441

800	20-30	60	333 500	7	.5	.35 <sup>G</sup>	—	*	*
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G. .7 also possible.

##### SIEMENS 442

1000	60	75	800	7 <sup>E</sup>	.5	.65	—	*	*
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E. See 432.

##### SIEMENS 4443

500	60	75	800	7 <sup>E</sup>	.5	.65	—	*	*
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E. See 432.

##### SIEMENS 4446

875	120	150	800	7 <sup>E</sup>	.5	.65	—	*	*
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E. See 432.

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
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#### ZUSE 7

250	9-36	45	200 556 800	7	.5	.75	—	*	4
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#### ZUSE 11

440	24-96	120	200 556 800	7	.5	.75	—	*	4
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#### ZUSE 110

550	17.5	40	450	7	*	*	—	*	4
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#### ZUSE 408

460	17.5	75	230	7	*	*	—	*	4
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#### ZUSE 507

450	22.5-62.5	114	200 556	7	.5	.75	—	*	4
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#### ZUSE 509

450	40-110	200	200 556	7	.5	.75	—	*	4
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#### Japan

##### FUJITSU FACUM 603B

*	15-42	75	200 556	7	.5	.34	—	*	*
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##### FUJITSU FACUM 603C

*	24-66	120	200 556	7	.5	.75	—	*	*
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— none, \* information unavailable.

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>NIPPON ELECTRIC 543A, 543B</b>									
678 <sup>A</sup>	90 <sup>B</sup>	157 <sup>C</sup>	381	7	.5	1.77	—	*	*
A. 407 for 543B.		B. 45 for 543B.		C. 79 for 543B.					
<b>NIPPON ELECTRIC E204/1, 2, 3</b>									
83	8.9	16	556	7	.5	.75	—	56	3
<b>NIPPON ELECTRIC N204A/1, 2, 3</b>									
389	32-89	120 <sup>C</sup>	200 400 556	10	.67	.67	—	*	*
C. 60 for Model 1.									
<b>NIPPON ELECTRIC N204B/1, 2, 7</b>									
264 <sup>A</sup>	7-20 <sup>B</sup>	36	200 <sup>D</sup> 556	7	.5	.45	—	*	*
A. 333 for Model 7.		B. 28 maximum for Model 7.		D. 800 maximum for Model 7.					
<b>NIPPON ELECTRIC N204B/3, 4, 8</b>									
389 <sup>A</sup>	16-44	80	200 <sup>D</sup> 556	7	.5	.6	—	*	*
A. 472 for Model 8.		B. 64 maximum for Model 8.		D. 800 maximum for Model 8.					
<b>NIPPON ELECTRIC N204B/5, 9</b>									
583 <sup>A</sup>	24-66 <sup>B</sup>	120	200 <sup>D</sup> 556	7	.5	.7	—	*	*
A. 597 for Model 9.		B. 96 maximum for Model 9.		D. 800 maximum for Model 9.					
<b>NIPPON ELECTRIC N204B/11, 12</b>									
208	13.3	24	556	7	.5	.45	—	56	2

**MAGNETIC TAPE CHARACTERISTICS**

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second — Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>NIPPON ELECTRIC N404/1A, N804/1A, 2A</b>									
625 <sup>A</sup>	96 <sup>B</sup>	120	400 <sup>D</sup>	10	.67	.67	—	*	*
A. 870 for N404/1A.		B. 133 for N804/2A.		D. 556 for N804/2A.					
<b>NIPPON ELECTRIC N404/3, N804/3A</b>									
456	48	60	400	10	.67	.67	—	*	*
<b>TOSHIBA 0074</b>									
1170	30	37.5	800	9	.5	.75	—	*	8
<b>TOSHIBA 0094</b>									
1670	60	75	800	9	.5	.75	—	*	8
<b>TOSHIBA 107</b>									
292	7.5-30	37.5	200 556 800	7	.5	.75	—	*	8
<b>TOSHIBA 109</b>									
445	15-60	75	200 556 800	7	.5	.75	—	*	8
<b>TOSHIBA 111</b>									
556	24-96	120	200 556 800	7	.5	.75	—	*	8
<b>TOSHIBA 0111</b>									
640	96	120	800	9	.5	.75	—	*	8
<b>TOSHIBA 112</b>									
*	30-120	150	200 556 800	7	.5	.75	—	*	8

— none, \* information unavailable.

# Card Equipment

## EXPLANATION OF COLUMN HEADINGS

Unit Rental Monthly	Transfer Rate Thousands of Characters per Second -- Range	Speed in Inches per Second	Dimensions Density in Bits per Inch	Tracks	Width in Inches	Interrecord Gap in Inches	Read Reverse	Control Unit Monthly Rental	Number of Devices
<b>TOSHIBA 0121</b>									
*	120	150	800	9	.5	.75	—	*	8
<b>TOSHIBA 680</b>									
851	15	75	200	7	.5	.75	—	*	8
<b>TOSHIBA 690</b>									
1300	41.6	75	556	7	.5	.75	—	*	8
<b>TOSHIBA 715A</b>									
262	30	75	400	8	.5	.75	—	*	8
<b>TOSHIBA 716B/2, 4</b>									
1044 <sup>A</sup>	7-28	35.1	200 556 800	7	.5	.75	—	*	8
A. 908 for Model 4.									
<b>TOSHIBA 716C/4</b>									
444	15-60	75	200 556 800	7	.5	.75	—	*	8
<b>TOSHIBA 716D</b>									
556	24-96	120	200 556 800	7	.5	.75	—	*	8
<b>TOSHIBA 716E</b>									
*	30-120	150	200 556 800	7	.5	.75	—	*	8
<b>TOSHIBA 7000</b>									
*	120	36.8	800	7	.5	.75	—	*	8

MAGNETIC TAPE CHARACTERISTICS

### Unit Rental

#### Monthly

The monthly rental price of a single unit, exclusive of independent control devices. A factor of forty is used for deriving rentals when only purchase prices are available.

### Type

Indicates the unit's function: reader only (RD), punch only (PN), or reader-punch combination (RP).

### Speed

The rate, in cards per minute, at which cards may be read or punched by the unit.

### Columns

The number of columns read or punched per card.

### Checking

The type of validity checking performed by the unit.

**Multiple Stacking** A check (✓) indicates that multiple stackers may be individually selected under program control.

### Control Unit

The unit for controlling the operation of the card-handling device.

#### Monthly Rental

The monthly rental price of the control unit only. If the control unit is an integral part of the card-handling device, the price of the unit is included in the device rental.

#### Number of Devices

The number of card-handling devices which can be attached to a single control unit.

#### Buffering

A check (✓) indicates that the control unit contains an independent memory buffer.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>ADVANCED SCIENTIFIC 60220 SERIES</b>										
Modified versions of Burroughs B120 series.										
<b>ADVANCED SCIENTIFIC 60232</b>										
Modified version of NCR 582.										
<b>ADVANCED SCIENTIFIC 60241</b>										
Modified version of Soroban SDT-111A.										
<b>ADVANCED SCIENTIFIC 60245</b>										
Modified version of Soroban SDT-111B.										
<b>ADVANCED SCIENTIFIC A-40 SERIES</b>										
Modified versions of IBM 1402 series.										
<b>BURROUGHS 9110</b>										
175	RD	200	—	80 <sup>E</sup>	PV	—	—	50	1	—
E. 51, 60 and 66 also possible.										
<b>BURROUGHS 9111</b>										
325	RD	800	—	80 <sup>E</sup>	PV	—	—	100	1	—
E. See 9110.										
<b>BURROUGHS 9112</b>										
450	RD	1400	—	80 <sup>E</sup>	PV	—	—	50	1	—
E. See 9110.										
<b>BURROUGHS 9210</b>										
350	PN	—	100	80 <sup>E</sup>	—	P	—	50	1	—
E. See 9110.										
<b>BURROUGHS 9211</b>										
515	PN	—	300	80 <sup>E</sup>	—	P	√	100	1	—
E. See 9110.										

CARD EQUIPMENT CHARACTERISTICS

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>BURROUGHS B122</b>										
150	RD	200	—	80	V	—	—	*	*	—
<b>BURROUGHS B123</b>										
320	RD	475	—	80 <sup>E</sup>	V	—	—	*	*	—
E. See 9110.										
<b>BURROUGHS B124</b>										
400	RD	800	—	80 <sup>E</sup>	V	—	—	*	*	—
E. See 9110.										
<b>BURROUGHS B129</b>										
500	RD	1400	—	80 <sup>E</sup>	V	—	—	*	*	—
E. See 9110.										
<b>BURROUGHS B303</b>										
450	PN	—	100	80 <sup>E</sup>	—	H	—	*	*	—
E. See 9110.										
<b>BURROUGHS B304</b>										
650	PN	—	300	80 <sup>E</sup>	—	H	√	*	*	—
E. See 9110.										
<b>COLLINS 8861A</b>										
Modified version of Control Data 405.										
<b>COLLINS 8862A</b>										
Modified version of Control Data 415.										
<b>CONTROL DATA 167</b>										
420-485	RD	250	—	80	—	—	—	— <sup>J</sup>	1	—
J. Each device contains its own control unit.										

† A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>CONTROL DATA 405</b>										
420	RD	1200	—	80	D	—	—	235	1	✓
<b>CONTROL DATA 415</b>										
310	PN	—	250	80	—	R	—	475	1	✓
<b>CONTROL DATA 1729</b>										
225 <sup>A</sup>	RD	100	—	80	—	—	—	— <sup>J</sup>	1	—
A. No rental price announced. Price derived from purchase price. J. See 167.										
<b>CONTROL DATA 3142</b>										
335	RD	100	—	80	—	—	—	— <sup>J</sup>	1	—
J. See 167.										
<b>DIGITAL ELECTRONICS 3089</b>										
Modified version of NCR 582.										
<b>DIGITAL EQUIPMENT 451A</b>										
Modified version of Burroughs B122.										
<b>DIGITAL EQUIPMENT 451B</b>										
Modified version of Burroughs B124.										
<b>DIGITAL EQUIPMENT CR01C</b>										
Modified version of NCR 582.										
<b>EAI 8452</b>										
Modified version of Uptime SR 400.										
<b>EAI 8453</b>										
Modified version of Uptime SR 800.										

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>EAI 8454</b>										
Modified version of Uptime SR 1500.										
<b>EAI 8455, 8456</b>										
Modified versions of Uptime SP 120.										
<b>GENERAL ELECTRIC 100 PUNCH</b>										
520	PN	—	100	80	—	RP	—	—	1	✓
<b>GENERAL ELECTRIC 100 READER</b>										
125	RD	300	—	80	P	—	—	—	1	✓
<b>GENERAL ELECTRIC 101</b>										
300	PN	—	60-200	80	—	R	—	—	1	✓
<b>GENERAL ELECTRIC 103</b>										
575	PN	—	300	80	—	R	—	—	1	✓
<b>GENERAL ELECTRIC 201 PUNCH</b>										
860	PN	—	300	80	—	PR	—	—	1	✓
<b>GENERAL ELECTRIC 201 READER</b>										
680	RD	900	—	80	V	—	2	—	1	✓
<b>GENERAL ELECTRIC 225/B, F</b>										
375 <sup>A</sup>	RD	400	—	80	P	—	—	—	1	—
A. 390 for Model F.										
<b>GENERAL ELECTRIC 225/C, D</b>										
810 <sup>A</sup>	RD	1000	—	80	P	—	—	—	1	—
A. 860 for Model D.										

† A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>GENERAL ELECTRIC 225/K</b>										
400	PN	—	100	80	—	P	—	—	1	—
<b>GENERAL ELECTRIC 225/M</b>										
825	PN	—	300	80	—	HR	—	—	1	—
<b>GENERAL ELECTRIC 930 PUNCH</b>										
420	PN	—	100	80	—	—	—	—	1	—
<b>GENERAL ELECTRIC 930 READER</b>										
405	RD	300	—	80	—	—	—	—	1	—
<b>GENERAL ELECTRIC 4244/C10</b>										
250	RD	300	—	80	—	—	—	*	*	—
Note. Unit not manufactured by General Electric.										
<b>GENERAL ELECTRIC 4244/C11</b>										
200	RD	200	—	80	—	—	—	*	*	—
Note. See 4244/C10.										
<b>GENERAL ELECTRIC 4244/C12</b>										
150	RD	100	—	80	—	—	—	*	*	—
Note. See 4244/C10.										
<b>GENERAL ELECTRIC 4280/A1</b>										
310	PN	—	100	80	—	P	—	*	*	—
Note. See 4244/C10.										
<b>HONEYWELL 60 SERIES</b>										
Modified versions of Burroughs B120 series readers and B300 series punches.										
<b>HONEYWELL 123</b>										
185	RD	400	—	80 <sup>E</sup>	V	—	—	— <sup>J</sup>	1	✓
E. 51 also possible. J. Control is physically in central processor.										

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>HONEYWELL 214/1</b>										
290	PN	—	400	80	—	A	—	145	1	✓
<b>HONEYWELL 214/2</b>										
335	RP	400	400	80	V	A	—	215	1	✓
<b>HONEYWELL 223</b>										
290	RD	800	—	90 <sup>E</sup>	V	—	—	— <sup>J</sup>	1	✓
E. 51 and 88 also possible. J. Each device contains its own control unit.										
<b>HONEYWELL 224/1</b>										
320	RP	300	270	80	DV	— <sup>G</sup>	✓	145 <sup>J</sup>	1	✓
G. See 214/1. J. For punch; 215 for reader.										
<b>HONEYWELL 224/2</b>										
440	RP	400	360	80	DV	— <sup>G</sup>	✓	145 <sup>J</sup>	1	✓
G. See 214/1. J. See 224/1.										
<b>HONEYWELL 227</b>										
600	RP	800	250	80	HV	D	✓	425 <sup>J</sup>	1	✓
J. 225 for punch and 200 for reader.										
<b>HONEYWELL 423/2</b>										
325	RD	650	—	80	DV	—	✓	— <sup>J</sup>	1	—
J. See 123.										
<b>HONEYWELL 427/1</b>										
560	RP	800	250	80 <sup>E</sup>	DV	D	✓	— <sup>J</sup>	1	—
E, J. See 123.										
<b>HONEYWELL 827/1</b>										
560	RP	800	250	80 <sup>E</sup>	D	D	✓	1100	1	✓
E. See 123.										

† A — activation verification, D — dual read/dual punch, E — echo, H — hole count, P — parity,  
R — read after write, V — validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking† Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
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### HUGHES H-3103

Modified version of Uptime SR 1500.

### IBM 024

*	RP	15 <sup>C</sup>	15 <sup>D</sup>	80	—	—	—	*	*	—
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C, D. For full 80-column card. Unit operates at 20 columns per second.

### IBM 026

*	RP	13.3 <sup>C</sup>	13.3 <sup>D</sup>	80	—	—	—	*	*	—
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C, D. For full 80-column card. Unit operates at 18 columns per second.

### IBM 711

825	RD	250	—	72	—	—	—	— <sup>J</sup>	1	—
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J. Each device contains its own control unit.

### IBM 721

625	PN	—	100	72	—	—	—	— <sup>J</sup>	1	—
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J. See 711.

### IBM 1402/1, 2, 3, 4, 5

575 <sup>A</sup>	RP	800 <sup>C</sup>	250	80 <sup>E</sup>	H	H	√	— <sup>J</sup>	1	—
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A. 640, 580, 425 and 400 for Models 2, 3, 4 and 5, respectively. C. 450 for Models 4 and 5. E. 51 also possible. J. See 711.

### IBM 1442/1, 2, N1

290 <sup>A</sup>	RP	300 <sup>C</sup>	60 <sup>D</sup>	80	—	—	√	— <sup>J</sup>	1	—
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A. 405 for Model 2 and 535 for Model N1. C. Up to 400 for Models 2 and N1. D. Up to 120 for Models 2 and N1. J. See 711.

### IBM 1442/3, 4

260 <sup>A</sup>	RD	400	—	80	—	—	√	— <sup>J</sup>	1	—
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A. 210 for Model 4. J. See 711.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking† Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
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### IBM 1442/5, N2

265 <sup>A</sup>	PN	—	91	80	—	V	√	— <sup>J</sup>	1	—
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A. 390 for Model N2. J. See 711.

### IBM 1442/6, 7

275 <sup>A</sup>	RP	300 <sup>C</sup>	50 <sup>D</sup>	80	—	V	√	— <sup>J</sup>	1	—
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A. 390 for Model 7. C. 400 maximum for Model 7. D. 91 maximum for Model 7. J. See 711.

### IBM 1444

385	PN	—	250	80	—	H	√	— <sup>J</sup>	1	—
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J. See 711.

### IBM 1622/1, 2

625 <sup>A</sup>	RP	250 <sup>C</sup>	125 <sup>D</sup>	80	P	P	√	—	*	√
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A. 780 for Model 2. C. 500 for Model 2. D. 250 for Model 2.

### IBM 2501/A1, A2, B1, B2

200 <sup>A</sup>	RD	600 <sup>C</sup>	—	80	V	—	√	— <sup>J</sup>	1	—
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A. 265, 270 and 330 for Models A2, B1 and B2, respectively. C. 1,000 for Models A2 and B2. J. See 711.

### IBM 2520

650	RP	500	500	80	D	D	√	— <sup>J</sup>	1	—
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J. See 711.

### IBM 2540

675	RP	1000	300	80	DH	DH	√	— <sup>J</sup>	1	√
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J. See 711.

### IBM 2560

585	RP	500	120	80	—	—	√	—	*	*
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Note. Multi-function card machine: collater, interpreter and printer.

† A — activation verification, D — dual read/dual punch, E — echo, H — hole count, P — parity, R — read after write, V — validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking† Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>IBM 7500</b>										
410	RD	500	—	80	V	—	√	—	*	—
<b>IBM 7501</b>										
80	RD	60	—	80	V	—	—	—	*	—
<b>IBM 7502</b>										
285	RD	60	—	80	V	—	—	—	*	—
<b>IBM 7550</b>										
575	PN	—	250	80	—	R	—	—	*	—
<b>NCR 376/7</b>										
375	RP	300	270	80	P	P	√	150	4	√
<b>NCR 376/8</b>										
500	RP	400	360	80	P	P	√	150	4	√
<b>NCR 376/101</b>										
400	PN	—	250	80	—	P	√	150	1	√
<b>NCR 380/3</b>										
750	RD	2000	—	80 <sup>E</sup>	P	—	√	*	1	√
E. Simultaneous reading of 80- and 90-column cards is possible.										
<b>NCR 577</b>										
125	PN	—	100	80	—	—	—	65	2	—
<b>NCR 582</b>										
35	RD	100	—	80	—	—	—	65	2	—
<b>PHILCO 156</b>										
Modified version of Uptime SR 400.										

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking† Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>PHILCO 165/1</b>										
Modified version of Control Data 415.										
<b>PHILCO 258</b>										
Modified version of Uptime SR 1500.										
<b>PHILCO 265</b>										
Modified version of IBM 721.										
<b>RCA 70/234</b>										
450	PN	—	100	80	—	H	—	— <sup>J</sup>	1	—
J. Each device contains its own control unit.										
<b>RCA 70/236</b>										
750	PN	—	300	80	—	H	—	— <sup>J</sup>	1	—
J. See 70/234.										
<b>RCA 70/237</b>										
650	RD	1435	—	80	H	—	—	— <sup>J</sup>	1	—
J. See 70/234.										
<b>RCA 329</b>										
— <sup>A</sup>	RD	1470	—	80 <sup>E</sup>	— <sup>F</sup>	—	√	— <sup>J</sup>	1	—
A, J. No prices available. E. 51 optionally available. F. Checking by photodiode test.										
<b>RCA 334</b>										
— <sup>A</sup>	PN	—	100	80	—	R	—	— <sup>J</sup>	1	—
A, J. See 329.										
<b>RCA 528, 538</b>										
Modified versions of IBM 2540.										

† A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.  
— none, \* information unavailable.



Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
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#### RCA 3436

— <sup>A</sup>	PN	—	300	80	—	R	√	— <sup>J</sup>	1	√
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A, J. See 329.

#### SCIENTIFIC CONTROL 5930, 6930

*	RD	100	—	80	—	—	—	*	1	√
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Note. Units are not manufactured by Scientific Control.

#### SCIENTIFIC CONTROL 5940, 6940

*	RD	400	—	80	—	—	—	*	1	√
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Note. See 5930.

#### SCIENTIFIC CONTROL 5955, 6955

*	PN	—	100	80	—	—	—	*	1	√
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Note. See 5930.

#### SCIENTIFIC DATA 7120

Modified version of Univac 711/02.

#### SCIENTIFIC DATA 7140

Modified version of Univac 706.

#### SCIENTIFIC DATA 7160, 9158

Modified versions of Univac 600.

#### SCIENTIFIC DATA 9150/1, 2, 3

Modified versions of Univac 700 series readers.

#### SEL 80-410A

Modified version of Burroughs B122.

#### SEL 80-440A

Modified version of Uptime SP 120.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
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#### SEL 80-450A SERIES

Modified versions of Uptime SR 400, 800.

#### SOROBAN SDT 110

176 <sup>A</sup>	RD	240	—	80	P	—	—	—	—	—
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A. No rental price announced. Price derived from purchase price.

#### SOROBAN SDT 111A

*	PN	—	110	80	—	E	—	—	—	—
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#### SOROBAN SDT 111B

500 <sup>A</sup>	PN	—	220	80	—	E	—	—	—	—
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A. See SDT 110.

#### UNIVAC 600

415	PN	—	300	80	—	HV	√	550	2	√
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#### UNIVAC 603/04

120	PN	—	75-200	80	—	EV	√	*	*	√
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#### UNIVAC 604

120	PN	—	200	80	—	H	√	*	*	√
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#### UNIVAC 652

505	PN	—	300	80	—	HV	√	635	2	√
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#### UNIVAC 703

540	RD	700	—	80	HV	—	√	635	2	√
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#### UNIVAC 706

250	RD	900	—	80	HV	—	√	550	2	√
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† A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>UNIVAC 711/00</b>										
90	RP	400	400	80	—	HV	—	*	*	✓
<b>UNIVAC 711/02</b>										
280	RD	600	—	80	HV	—	—	1410	*	✓
<b>UNIVAC 1004/IA</b>										
— <sup>A</sup>	RP	400	200	80 <sup>E</sup>	—	H	✓ <sup>H</sup> — <sup>J</sup>	—	1	✓
A, J. Unit is integral part of central processor. E. 90 also possible. H. Output only.										
<b>UNIVAC 1004/IB</b>										
125	RD	400	—	80 <sup>E</sup>	—	—	✓	*	*	—
E. See 1004/IA.										
<b>UNIVAC 1004/II</b>										
— <sup>A</sup>	RP	615	200	80 <sup>E</sup>	—	H	✓ <sup>H</sup> — <sup>J</sup>	—	1	✓
A, E, H, J. See 1004/IA.										
<b>UPTIME SP 120</b>										
285 <sup>A</sup>	PN	—	100 <sup>D</sup>	80	—	H	✓	—	—	—
A. No rental price announced. Price derived from purchase price. D. Up to 316 possible.										
<b>UPTIME SR 400</b>										
135 <sup>A</sup>	RD	400	—	80	DV	—	—	—	—	—
A. See SP 120.										
<b>UPTIME SR 800</b>										
200 <sup>A</sup>	RD	800	—	80	DV	—	—	—	—	—
A. See SP 120.										

CARD EQUIPMENT CHARACTERISTICS

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>UPTIME SR 1500</b>										
300 <sup>A</sup>	RD	1500	—	80	DV	—	—	—	—	—
A. See SP 120.										
<i>England</i>										
<b>EELM 4512</b>										
*	RD	800	—	80	—	—	—	*	1	—
<b>EELM 4513</b>										
*	RD	800	—	80 <sup>E</sup>	—	—	—	*	1	—
E. 51 also possible.										
<b>EELM 4514</b>										
*	RD	1435	—	80	—	—	—	*	1	—
<b>EELM 4515</b>										
*	RD	1435	—	80 <sup>E</sup>	—	—	—	*	7	—
E. See 4513.										
<b>EELM 4520</b>										
*	PN	—	100	80	—	R	—	*	1	—
<b>EELM 4521</b>										
*	PN	—	300	80	—	R	—	*	1	—
<b>EELM 4522</b>										
*	PN	—	300	80	—	R	—	*	1	—
<b>EELM CD1</b>										
*	RP	600	300	80	P	P	—	*	*	—

<sup>A</sup> - activation verification, <sup>D</sup> - dual read/dual punch, <sup>E</sup> - echo, <sup>H</sup> - hole count, <sup>P</sup> - parity, <sup>R</sup> - read after write, <sup>V</sup> - validity.  
— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>ELLIOTT CD1</b>										
*	RP	400	100	80	P	P	—	*	*	—
<b>ICT 582A</b>										
*	PN	—	100	80	—	P	√	*	*	—
<b>ICT 593</b>										
*	RD	600	—	80	P	—	√	*	*	—
<b>ICT 1911</b>										
—A	RD	900	—	80	D	—	—	— <sup>J</sup>	1	—
A, J. Prices quoted only on a particular system configuration.										
<b>ICT 1912</b>										
—A	RD	300	—	80	—	—	—	— <sup>J</sup>	1	—
A, J. See 1911.										
<b>ICT 1920</b>										
—A	PN	—	100	80	—	—	—	— <sup>J</sup>	1	√
A, J. See 1911.										
<b>ICT 1922</b>										
—A	PN	—	33	80	—	—	—	— <sup>J</sup>	1	—
A, J. See 1911.										
<b>ICT 2102</b>										
—A	RD	300	—	80	—	—	—	— <sup>J</sup>	1	—
A, J. See 1911.										
<b>ICT 2151</b>										
—A	PN	—	300	80	—	H	—	— <sup>J</sup>	1	√
A, J. See 1911.										

### CARD EQUIPMENT CHARACTERISTICS

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Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<i>Germany (West)</i>										
<b>SIEMENS 234</b>										
500	PN	—	100	80	—	—	—	*	*	√
<b>SIEMENS 236/10</b>										
850	PN	—	300	80	—	—	√	*	*	√
<b>SIEMENS 236/20</b>										
1125	RP	300	300	80	—	—	√	*	*	√
<b>SIEMENS 237</b>										
750	RD	1450	—	80	—	—	√	*	*	√
<b>SIEMENS 2010</b>										
1840	RD	775	—	80	—	—	√	*	*	—
<b>SIEMENS 2021</b>										
1875	PN	—	110	80	—	—	√	*	*	—
<b>SIEMENS 4235</b>										
390	RD	670	—	80	—	—	√	*	*	—
<b>ZUSE 80</b>										
850	RP	125	125	*	—	—	—	*	*	—
<b>ZUSE 122</b>										
275	RD	200	—	*	—	—	—	*	*	—
<b>ZUSE 303</b>										
690	PN	—	100	*	—	—	—	*	*	—

†A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking† Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>ZUSE EP-46</b>										
780	PN	—	200	*	—	—	—	*	*	—
<b>ZUSE ERC-1</b>										
380	RD	825	—	*	—	—	—	*	*	—

### Japan

<b>FUJITSU FACOM 567A</b>										
*	RD	100	—	80	—	—	—	*	*	—
<b>FUJITSU FACOM 663</b>										
*	RD	800	—	80 <sup>E</sup>	D	—	—	*	*	—
E. 90 also possible.										
<b>FUJITSU FACOM 682</b>										
*	PN	—	250	80 <sup>E</sup>	—	R	√	*	*	—
E. See Facom 663.										
<b>NIPPON ELECTRIC 401/2A</b>										
1650	RP	600	250	80	D	DR	—	*	*	—
<b>NIPPON ELECTRIC 406/1</b>										
353	RD	200	—	80	D	—	—	*	*	—
<b>NIPPON ELECTRIC 406/2A</b>										
763	RD	650	—	80	—	—	—	*	*	—
<b>NIPPON ELECTRIC 407/1, 2A</b>										
532 <sup>A</sup>	PN	—	100 <sup>D</sup>	80	—	DR	—	*	*	—
A. 1,080 for Model 2A. D. 250 for Model 2A.										
<b>NIPPON ELECTRIC 411/1</b>										
380	RD	200	—	90	—	—	—	*	*	—

### CARD EQUIPMENT CHARACTERISTICS

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>NIPPON ELECTRIC 412/1</b>										
491	PN	—	100	90	—	DR	—	*	*	—
<b>NIPPON ELECTRIC E214</b>										
500	RP	400	100 <sup>D</sup>	80	V	V	—	*	*	—
D. 400 also possible.										
<b>NIPPON ELECTRIC N123</b>										
200	RD	400	—	80 <sup>E</sup>	V	—	—	*	*	—
E. 51 also possible.										
<b>NIPPON ELECTRIC N214/1</b>										
300	PN	—	100 <sup>D</sup>	80	—	P	—	*	*	—
D. See E214.										
<b>NIPPON ELECTRIC N214/2</b>										
350	RP	400	100 <sup>D</sup>	80	V	V	—	*	*	—
D. See E214.										
<b>NIPPON ELECTRIC N223</b>										
389	RD	800	—	90 <sup>E</sup>	V	—	—	*	*	—
E. 51 and 80 also possible.										
<b>NIPPON ELECTRIC N224A/1</b>										
207	PN	—	100	90 <sup>E</sup>	—	H	—	*	*	—
E. 80 also possible.										
<b>NIPPON ELECTRIC N224A/2</b>										
389	PN	—	250	80	—	H	—	*	*	—
<b>NIPPON ELECTRIC N227</b>										
716	RP	800	250	90 <sup>E</sup>	HV	HV	—	—	—	—
E. See N224A/1.										

\* A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>NIPPON ELECTRIC N423/2, N823/2</b>										
*	RD	650	—	80	HV	—	—	*	*	—
<b>NIPPON ELECTRIC N424/2, N824/2</b>										
*	PN	—	250	80	—	DP	—	*	*	—
<b>NIPPON ELECTRIC N427, N827</b>										
*	RP	800	250	80	DHP	DHP	—	*	*	—
<b>TOSHIBA 100</b>										
500	PN	—	100	80	—	—	—	*	*	—
<b>TOSHIBA 150</b>										
567	PN	—	200	80	—	—	—	*	*	—
<b>TOSHIBA 200 PUNCH</b>										
825	PN	—	300	80	—	—	—	*	*	—
<b>TOSHIBA 200 READER</b>										
650	RD	900	—	80 <sup>E</sup>	—	—	—	*	*	—
E. 90 also possible.										
<b>TOSHIBA 225C</b>										
810	RD	1500	—	80	—	—	—	*	*	—
<b>TOSHIBA 225F</b>										
390	RD	400	—	80	—	—	—	*	*	—
<b>TOSHIBA 225K</b>										
400	PN	—	100	80	—	—	—	*	*	—
<b>TOSHIBA 312A</b>										
707	RD	200	—	80	—	—	—	*	*	—

CARD EQUIPMENT CHARACTERISTICS

Unit Rental Monthly	Type	Speed Input — Cards per Minute	Output — Cards per Minute	Columns	Checking † Input	Output	Multiple Stacking	Control Unit Rental	Number of Devices	Buffering
<b>TOSHIBA 313A</b>										
813	RD	600	—	80	—	—	—	*	*	—
<b>TOSHIBA 315A</b>										
785	RD	600	—	90	—	—	—	*	*	—
<b>TOSHIBA 317A</b>										
650	RD	900	—	80 <sup>E</sup>	—	—	—	*	*	—
E. See 200 reader.										
<b>TOSHIBA 318A</b>										
180	RD	100	—	80	—	—	—	*	*	—
<b>TOSHIBA 416A, 416B</b>										
383 <sup>A</sup>	PN	—	100	80 <sup>E</sup>	—	—	—	*	*	—
A. 440 for 416B. E. 90 for 416B.										
<b>TOSHIBA 431A</b>										
825	PN	—	300	80	—	—	—	*	*	—
<b>TOSHIBA 433A</b>										
567	PN	—	200	80	—	—	—	*	*	—
<b>TOSHIBA 5102</b>										
528	PN	—	200	80	—	—	—	*	*	—
<b>TOSHIBA 5109</b>										
472	RD	900	—	80 <sup>E</sup>	—	—	—	*	*	—
E. See 200 reader.										
<b>TOSHIBA P7000</b>										
*	PN	—	100 <sup>D</sup>	80	—	—	—	*	*	—
D. 300 also possible.										
<b>TOSHIBA R7000</b>										
—	RD	100	—	80	—	—	—	*	*	—

† A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.  
— none, \* information unavailable.

# Line Printers

## EXPLANATION OF COLUMN HEADINGS

### *Unit Rental*

**Monthly** The monthly rental price of a single unit, exclusive of independent control devices. A factor of forty is used for deriving rentals when only purchase prices are available.

### *Speed*

**Printing in Lines per Minute—Range** The rate at which the unit operates when actually printing data, ranging from the slowest to the fastest speed of the unit.

**Skipping in Inches per Second** The rate at which the unit advances a form through the carriage without printing.

**Print Positions** The maximum number of characters which can be printed on a single line.

### *Character Set*

**Minimum-Maximum** The range of character set sizes available.

**Printing Technique** The method by which the unit produces hard copy: impact-type (I) or non-impact-type (N), the latter implying an electrostatic process.

**Control Unit** The unit for controlling the operation of the printer.

**Monthly Rental** The monthly rental price of the control unit only. If the control unit is an integral part of the printer, the price of the unit is included in the printer rental.

**Number of Devices** The number of printers which can be attached to a single control unit.

**Buffering** A check (✓) indicates that the control unit contains an independent memory buffer.

Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering	
<b>ADVANCED SCIENTIFIC 60326, 60330</b>									
Modified versions of Data Products Printer.									
<b>ADVANCED SCIENTIFIC 60334</b>									
Modified version of Control Data 505.									
<b>ADVANCED SCIENTIFIC A-60</b>									
Modified version of Control Data 3254.									
<b>ANEXEL 4000 SERIES</b>									
*	300	21	160	64	128		*	1	—
<b>ANEXEL 5000 SERIES</b>									
975 <sup>A</sup>	1000-1250	75	160	64	128		— <sup>H</sup>	1	✓
A. No rental price announced. Price derived from purchase price. H. Each device contains its own control unit.									
<b>BURROUGHS 9240</b>									
800	700	25	120	—	64		150	1	✓
<b>BURROUGHS 9241</b>									
900	1040	25	120	—	64		75	1	✓
<b>BURROUGHS 9242</b>									
850	815	25	120	—	64		75	1	✓
<b>BURROUGHS B320</b>									
810	475	25	120	—	64		200	2	—
<b>BURROUGHS B321, B325</b>									
1200 <sup>A</sup>	700	25	120 <sup>D</sup>	—	64		200	2	—
A. 1275 for B325. D. 132 for B325.									

LINE PRINTERS CHARACTERISTICS

Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering	
<b>BURROUGHS B328, B329</b>									
1325 <sup>A</sup>	1040	25	120 <sup>D</sup>	—	64		200	2	1
A. 1400 for B329. D. 132 for B329.									
<b>COLLINS 8852A</b>									
Modified version of Data Products Printer.									
<b>CONTROL DATA 166</b>									
720	150-600	*	120	16	64		— <sup>H</sup>	1	✓
H. Each device contains its own control unit.									
<b>CONTROL DATA 501</b>									
910	800-1000	25	136	48	64		540	1	✓
<b>CONTROL DATA 505</b>									
670	500	25	136	—	64		540	1	✓
<b>CONTROL DATA 1612</b>									
1910	1000	25	120	—	64		— <sup>H</sup>	1	✓
H. See 166.									
<b>CONTROL DATA 1742</b>									
975 <sup>A</sup>	300	*	136	—	64		— <sup>H</sup>	1	✓
A. No rental price announced. Price derived from purchase price. H. See 166.									
<b>CONTROL DATA 3152</b>									
660	150	*	120	—	64		— <sup>H</sup>	1	✓
H. See 166.									
<b>CONTROL DATA 3254</b>									
925	300	*	136	—	64		— <sup>H</sup>	1	✓
H. See 166.									

— none, \* information unavailable.

Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
<b>DATAMARK 300 SERIES</b>								
450 <sup>A</sup>	300	10	160	64 128		— <sup>H</sup>	1	√
A. No rental price announced. Price derived from purchase price. H. Each device contains its own control unit.								
<b>DATAMARK 500 SERIES</b>								
600 <sup>A</sup>	300-1200	25	160	64 128		— <sup>H</sup>	1	√
A, H. See 300 series.								
<b>DATA PRODUCTS PRINTER</b>								
1000	360-1000	25	132	48 128		— <sup>H</sup>	1	√
H. Each device contains its own control unit.								
<b>DIGITAL EQUIPMENT 64</b>								
Modified version of Analex 4000.								
<b>DIGITAL EQUIPMENT 647</b>								
Modified version of Analex 5000.								
<b>EAI 8460 SERIES</b>								
Modified versions of Analex 400 series.								
<b>GENERAL ELECTRIC 100</b>								
485	300	14.5	136	— 64		—	1	—
<b>GENERAL ELECTRIC 110</b>								
695	600	64.5	136	— 64		—	1	—
<b>GENERAL ELECTRIC 201</b>								
1460	1200	27.5	136	46 64		—	1	√
<b>GENERAL ELECTRIC 215</b>								
775	450	25	120	50 64		—	1	—

LINE PRINTERS CHARACTERISTICS  
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Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
<b>GENERAL ELECTRIC 225</b>								
1295	900	25	120	50 64		—	1	√
<b>GENERAL ELECTRIC 690</b>								
2950	900	25	120	— 50		—	1	√
<b>GENERAL ELECTRIC 4260/2</b>								
970	300	*	120	— 64		*	*	—
Note. Unit not manufactured by General Electric.								
<b>HONEYWELL 64</b>								
Modified version of Analex 4000.								
<b>HONEYWELL 122</b>								
465	400-450	50	120 <sup>D</sup>	55 63		— <sup>H</sup>	1	√
D. 132 also available. H. Control is physically in central processor.								
<b>HONEYWELL 222/1</b>								
760	550-1300	50	96	17 63		— <sup>H</sup>	1	√
H. Each device contains its own control unit.								
<b>HONEYWELL 222/2</b>								
805	550-1300	50	108	17 63		— <sup>H</sup>	1	√
H. See 222/1.								
<b>HONEYWELL 222/3</b>								
855	550-1300	50	120 <sup>D</sup>	17 63		— <sup>H</sup>	1	√
D. See 122. H. See 222/1.								
<b>HONEYWELL 222/4</b>								
1210	750-1300	50	120 <sup>D</sup>	17 63		— <sup>H</sup>	1	√
D. See 122. H. See 222/1.								

— none, \* information unavailable.



Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
<b>HONEYWELL 222/5</b>								
615	400-450	50	120 <sup>D</sup>	55 63	I	— <sup>H</sup>	1	✓
D. See 122. H. See 222/1.								
<b>HONEYWELL 422/3</b>								
1550	900	21	160 <sup>D</sup>	— 56	I	— <sup>H</sup> — <sup>J</sup>	—	—
D. 120 active positions for any given print run are chosen by plugboard wiring. H. See 122. J. One for Honeywell 400; two for Honeywell 1400.								
<b>HONEYWELL 422/4</b>								
1050	900	21	120	— 56	I	— <sup>H</sup> — <sup>J</sup>	—	—
H. See 122. J. See 422/3.								
<b>HONEYWELL 822/3</b>								
1550	900	20	160 <sup>D</sup>	— 56	I	1450	1	✓
D. See 422/3.								
<b>HONEYWELL 7050</b>								
Modified version of Anelex 5000.								
<b>HUGHES H-3102</b>								
Modified version of Data Products Printer.								
<b>IBM 716</b>								
1250	150	*	72	— 47	I	—	1	—
<b>IBM 1132</b>								
275	80-110	10	120	— 48	I	*	1	—
<b>IBM 1403</b>								
425 <sup>A</sup>	600-1100	75	120 <sup>D</sup>	48 240	I	— <sup>H</sup>	3	✓
A. Up to 950 depending on Model used. D. 132 also possible. H. Variable depending on central processor used.								

LINE PRINTERS CHARACTERISTICS

Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
<b>IBM 1404</b>								
1625	600	*	132	* *	I	— <sup>H</sup>	2	✓
H. Varies from 1000 to 1640 depending on central processor used.								
<b>IBM 1443</b>								
325 <sup>A</sup>	200-600	15	120	13 63	I	— <sup>H</sup>	1	✓
A. 475 for Model 2 and 925 for Model 3. H. Each device contains its own control unit.								
<b>IBM 1445</b>								
1275 <sup>A</sup>	190-525	15	113	14 56	I	— <sup>H</sup>	1	✓
A. 1,475 for Model N1. H. See 1443.								
<b>IBM 2203</b>								
525	300-750	15	120	13 63	I	— <sup>H</sup>	1	*
H. See 1443.								
<b>IBM 7400</b>								
980	150	*	120	— 47	I	— <sup>H</sup>	1	—
H. See 1443.								
<b>NCR 340/301</b>								
1150	680-1000	90	120	— 56	I	— <sup>H</sup>	1	✓
H. Each device contains its own control unit.								
<b>NCR 340/503</b>								
650	800	90	120	— 56	I	— <sup>H</sup>	1	—
H. See 340/301.								
<b>NCR 340/601</b>								
1350	1000	90	120	— 56	I	— <sup>H</sup>	1	✓
H. See 340/301.								

— none, \* information unavailable.

Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
<b>NCR 340/632</b>								
1450	1000	90	132	— 56	I	— <sup>H</sup>	1	✓
H. See 340/301.								
<b>NCR 541</b>								
280	125	12	96	— 39	I	130	1	✓
<b>PHILCO 151</b>								
Modified version of Analex 4000.								
<b>PHILCO 256</b>								
Modified version of Analex 5000.								
<b>POTTER 3502</b>								
777	120-800	16.5	132	16 , 192	I	— <sup>H</sup>	1	✓
H. Each device contains its own control unit.								
<b>RCA 70/242</b>								
700	625	27	132	— 64	I	— <sup>H</sup>	1	—
H. Each device contains its own control unit.								
<b>RCA 70/243-10</b>								
1000	1250	27	132	— 64	I	— <sup>H</sup>	1	—
H. See 70/242.								
<b>RCA 70/243-51</b>								
1250	714	27	160	— 96	I	— <sup>H</sup>	1	—
H. See 70/242.								
<b>RCA 70/248</b>								
1550	600	27	132	— 48	I	— <sup>H</sup>	1	—
H. See 70/242.								

LINE PRINTERS CHARACTERISTICS

Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
<b>RCA 333</b>								
*	800-1000	150	120	47 64	I	*	1	✓
<b>RCA 335</b>								
*	835-1075	150	160	47 64	I	*	1	✓
<b>RCA 533</b>								
Modified version of Analex 4000.								
<b>SCIENTIFIC CONTROL 5500/10, 20, 30, 40; 6500/10, 20, 30, 40</b>								
Modified versions of Data Products Printer.								
<b>SCIENTIFIC DATA 7440</b>								
Modified version of NCR 340/503.								
<b>SCIENTIFIC DATA 7445</b>								
Modified version of NCR 340/601.								
<b>SCIENTIFIC DATA 9171</b>								
Modified version of NCR 541.								
<b>SCIENTIFIC DATA 9379</b>								
Modified version of NCR 340/301.								
<b>SEL 80-730A SERIES</b>								
Modified versions of Analex 5000 series.								
<b>UNIVAC 0752/00</b>								
1165	700-900	20	128	— 51	I	—	1	✓
<b>UNIVAC 0755/01</b>								
340	600-750	20	132	— 63	I	—	1	✓
<b>UNIVAC 0755/05</b>								
575	700-900	20	132	— 63	I	1640	1	✓

— none, \* information unavailable.

Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
<b>UNIVAC 1004/I</b>								
—A	400	20	132	— 63	I	— <sup>H</sup>	1	✓
A, H. Printer is integral part of central processor.								
<b>UNIVAC 1004/III</b>								
—A	600	20	132	— 63	I	— <sup>H</sup>	1	✓
A, H. See 1004/I.								
<b>UNIVAC 3030/00</b>								
—A	250-500	25	96 <sup>D</sup>	16 63	I	— <sup>H</sup>	1	✓
A, H. See 1004/I. D. 120 and 132 also available.								
<b>UNIVAC 3030/02</b>								
—A	600-1200	25	120 <sup>D</sup>	16 63	I	— <sup>H</sup>	1	✓
A, H. See 1004/I. D. 132 also available.								
<b>UNIVAC 8560</b>								
—A	250	25	80 <sup>D</sup>	— 63	N	— <sup>H</sup>	1	✓
A, H. See 1004/I. D. See 3030/02.								

### Denmark

<b>REGNOCENTRALEN GIER</b>								
980	600-1200	27.5 <sup>C</sup>	160	— 64	I	*	*	—
C. 75 optionally available.								

### England

<b>EELM 1040</b>								
*	800-1000	25	80 <sup>D</sup>	— 55	I	*	*	—
D. 160 also available.								

## LINE PRINTERS CHARACTERISTICS

Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
<b>EELM 4554</b>								
*	1350	33 <sup>C</sup>	160	— 64	I	—	1	✓
C. 75 optionally available.								
<b>EELM 4555</b>								
*	1350	33 <sup>C</sup>	132	— 64	I	*	1	✓
C. See 4554.								
<b>EELM 4560</b>								
*	750	33 <sup>C</sup>	160	— 64	I	*	1	✓
C. See 4554.								
<b>EELM 4561</b>								
*	750	33 <sup>C</sup>	132	— 64	I	*	1	✓
C. See 4554.								
<b>ELLIOTT LP1</b>								
*	300	18	80 <sup>D</sup>	— 64	I	*	*	—
D. 160 also available.								
<b>ELLIOTT LP2</b>								
*	600	27.5	80 <sup>D</sup>	— 64	I	*	*	—
D. See LP1.								
<b>ELLIOTT LP3</b>								
*	1000	15	120 <sup>D</sup>	— 58	I	*	*	—
D. See LP1.								
<b>ICT 1931</b>								
—A	300	31	120 <sup>D</sup>	— 64	I	— <sup>H</sup>	1	—
A, H. Prices quoted only on a particular system configuration. D. 96 also available.								

Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
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**ICT 1932**

—A	600	31	120 <sup>D</sup>	— 64		— <sup>H</sup>	1	—
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A, D, H. See 1931.

**ICT 1933**

—A	1100-1350	31	120 <sup>D</sup>	48 64		— <sup>H</sup>	1	✓
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A, H. See 1931. D. 96 and 160 also available.

**ICT 2401**

—A	300	24	120 <sup>D</sup>	— 64		— <sup>H</sup>	1	—
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A, D, H. See 1931.

*Germany (West)*
**SIEMENS 243**

1125	1000-1250	*	132	48 64		*	*	✓
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**SIEMENS 2022**

915	750-1500	*	120	— 48		*	*	—
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**SIEMENS 2023**

800	540	*	120 <sup>D</sup>	— 48		*	*	—
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D. 104 also available.

**SIEMENS 2024**

500	540	*	80 <sup>D</sup>	— 48		*	*	—
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D. 72 also available.

**SIEMENS 2025**

245	540	*	40 <sup>D</sup>	— 48		*	*	—
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D. 24 and 32 also available.

**LINE PRINTERS CHARACTERISTICS**

Unit Rental Monthly	Speed Printing in Lines per Minute — Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
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**SIEMENS 4247**

1000	620-750	*	132	51 64		*	*	✓
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**ZUSE 300**

610	300	*	120 <sup>D</sup>	— 49		*	*	—
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D. 136 and 160 also available.

**ZUSE 1000**

900	1000	*	120 <sup>D</sup>	— 49		*	*	—
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D. See 300.

*Japan*
**FUJITSU FACOM 641A**

*	540-1100	*	120	50 100		*	*	—
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**FUJITSU FACOM 642A**

*	1000-1500	*	136	62 109		*	*	—
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**FUJITSU FACOM 643A**

*	240-480	8.5	80	— 50		*	*	—
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**NIPPON ELECTRIC 352, 402/1**

222 <sup>A</sup>	200	*	120	— 96		*	*	—
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A. 693 for 402/1.

**NIPPON ELECTRIC 402/2, 3, 4**

2460 <sup>A</sup>	900	*	120 <sup>D</sup>	— 56 <sup>F</sup>		*	*	—
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A. 1490 for Model 2. D. 160 also available. F. 58 for Model 4.

**NIPPON ELECTRIC 402/5**

1530	500	*	120 <sup>D</sup>	— 96		*	*	—
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D. See 402/2.

— none, \* information unavailable.

Unit Rental Monthly	Speed Printing in Lines per Minute—Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
<b>NIPPON ELECTRIC E206</b>								
500	200	*	120 <sup>D</sup>	— 109		*	*	—
D. 132 also available.								
<b>NIPPON ELECTRIC N122A/1, N206A/1</b>								
500 <sup>A</sup>	420	*	120 <sup>D</sup>	— 109		*	*	—
A. 656 for N206A/1. D. See E206.								
<b>NIPPON ELECTRIC N206</b>								
1055	900	*	120 <sup>D</sup>	— 56		*	*	—
D. See E206.								
<b>NIPPON ELECTRIC N222/4</b>								
1180	950	*	120 <sup>D</sup>	— 63		*	*	—
D. See E206.								
<b>NIPPON ELECTRIC N422/3, 3K, 4; N622/3</b>								
1810 <sup>A</sup>	900	*	120 <sup>D</sup>	— 56		*	*	—
A. 1050 for 422/4. D. See 402/2.								
<b>TOSHIBA 200N</b>								
1250	938	14	120	— 50		*	*	—
<b>TOSHIBA 204</b>								
1250	743	14	136	— 96		*	*	—
<b>TOSHIBA 206</b>								
1140	790	16	136	— 64		*	*	—
<b>TOSHIBA 208</b>								
1140	510	16	136	— 109		*	*	—
<b>TOSHIBA 514B</b>								
687	200	40	130	— 99		*	*	—

LINE PRINTERS CHARACTERISTICS

Unit Rental Monthly	Speed Printing in Lines per Minute—Range	Skipping in Inches per Second	Print Positions	Character Set Minimum Maximum	Printing Technique	Control Unit Rental	Number of Devices	Buffering
<b>TOSHIBA 515C</b>								
908	280	18	130	— 96		*	*	—
<b>TOSHIBA 516</b>								
583	410	27	132	— 52		*	*	—
<b>TOSHIBA 517B</b>								
1538	1000	16	120	— 64		*	*	—
<b>TOSHIBA 517C</b>								
807	1000	16	120	— 64		*	*	—
<b>TOSHIBA 517D</b>								
807	600	16	120	— 96		*	*	—
<b>TOSHIBA 518A</b>								
508	350	2.75	128	— 52		*	*	—
<b>TOSHIBA 690A</b>								
3090	900	16	120	— 50		*	*	—
<b>TOSHIBA 5103</b>								
610	342	25.5	120	— 96		*	*	—
<b>TOSHIBA 5104</b>								
610	478	25.5	120	— 64		*	*	—
<b>TOSHIBA 5105</b>								
750	510	16	136	— 96		*	*	—
<b>TOSHIBA 5107</b>								
750	790	16	136	— 64		*	*	—
<b>TOSHIBA 7000</b>								
*	300	16	120	— 64		*	*	—

— none, \* information unavailable.

# Paper-Tape Equipment

## EXPLANATION OF COLUMN HEADINGS

### *Unit Rental*

#### *Monthly*

The monthly rental price of a single unit, exclusive of independent control devices. A factor of forty is used for deriving rentals when only purchase prices are available.

#### *Type*

Indicates the unit's function: reader only (RD), punch only (PN), or reader-punch combination (RP).

#### *Speed*

The rate, in characters per second, at which the unit reads or punches paper tape.

#### *Channels*

The number of positions across the tape used to represent a character, including parity if any.

#### *Checking*

The type of validity checking performed by the unit.

### *Control Unit*

#### *Monthly Rental*

The monthly rental price of the control unit only. If the control unit is an integral part of the paper-tape device, the price of the unit is included in the device rental.

#### *Number of Devices*

The number of paper-tape devices which can be attached to a single control unit.

#### *Buffering*

A check (✓) indicates that the control unit contains an independent memory buffer.

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>ADAGE PTP</b>									
*	PN	—	110	8	—	—	— <sup>H</sup>	1	✓
H. Each device contains its own control unit.									
<b>ADAGE PTR</b>									
*	RD	300	—	8	—	—	— <sup>H</sup>	1	✓
H. See PTP.									
<b>ADVANCED SCIENTIFIC A-20 SERIES</b>									
Modified combinations of the Digitronics readers and Tally punches.									
<b>ADVANCED SCIENTIFIC 60040</b>									
Modified combination of Digitronics B3000 reader and Tally P150 Punch.									
<b>ADVANCED SCIENTIFIC 60045</b>									
Modified combination of Digitronics B3000 reader and Tally P120 punch.									
<b>AUTONETICS AFPC</b>									
400	RP	600	150	5, 6, 7, 8	P	EP	*	*	—
<b>BURROUGHS 9120</b>									
300	RD	500 <sup>C</sup>	—	5, 6, 7, 8	P	—	50	1	—
C. Up to 1,000 possible.									
<b>BURROUGHS 9220</b>									
260	PN	—	100	5, 6, 7, 8	—	P	50	1	✓
<b>BURROUGHS B141</b>									
400	RD	500 <sup>C</sup>	—	5, 6, 7, 8	P	—	120	8	—
C. See 9120.									
<b>BURROUGHS B341</b>									
190	PN	—	100	5, 6, 7, 8	—	P	120	8	✓

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>CONTROL DATA 174G</b>									
320	RP	350	120	8	—	—	— <sup>H</sup>	1	—
H. See 1721.									
<b>CONTROL DATA 350</b>									
*	RD	350	—	5, 7, 8	—	—	*	*	—
<b>CONTROL DATA 1721, 1722</b>									
112 <sup>A</sup>	RD	400	—	8	—	—	— <sup>H</sup>	1	—
A. 150 for 1722. No rental price announced. Price derived from purchase price. H. Each device contains its own control unit. Note. 1722 is a 1721 with supply and take-up reels.									
<b>CONTROL DATA 1723, 1724</b>									
125 <sup>A</sup>	PN	—	120	8	—	—	— <sup>H</sup>	1	—
A. 187 for 1724. No rental price announced. Price derived from purchase price. H. See 1721. Note. 1724 is a 1723 with supply and take-up reels.									
<b>CONTROL DATA 3691</b>									
325	RP	350	120	8	P	—	— <sup>H</sup>	1	✓
H. See 1721.									
<b>CONTROL DATA 3694</b>									
680	RP	1000	120	8	P	—	— <sup>H</sup>	1	✓
H. See 1721.									
<b>CONTROL DATA 8074</b>									
105	RD	350	—	5, 7, 8	—	—	— <sup>H</sup>	1	—
H. See 1721.									
<b>CONTROL DATA 8075</b>									
135	RD	120	—	5, 7, 8	—	—	— <sup>H</sup>	1	—
H. See 1721.									

† A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.  
— none, \* information unavailable.

Unit Rental Monthly	Type	Speed	Input — Characters per Second	Output — Characters per Second	Channels	Checking †	Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
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**CONTROL DATA 8079**

145	PN	—	120	8	—	—	—	—	H	1	—
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H. See 1721.

**CONTROL DATA 8291**

*	PN	—	110	5, 6, 7, 8	—	—	—	—	*	1	—
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**CONTROL DATA 8299**

*	RD	350	—	8	—	—	—	—	*	1	—
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**DIGITAL EQUIPMENT 750**

Modified version of Digitronics B2500.

**DIGITAL EQUIPMENT PC01**

— <sup>A</sup>	RP	300	50	8	—	—	—	—	H	1	✓
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A, H. Standard equipment in processor configuration.

**DIGITAL EQUIPMENT PC02**

62 <sup>A</sup>	RD	300	—	8	—	—	—	—	H	1	✓
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A. No rental price announced. Price derived from purchase price. H. Each device contains its own control unit.

**DIGITRONICS 3000**

38 <sup>A</sup>	RD	700	—	5, 6, 7, 8	—	—	—	—	—	—	—
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A. No rental price announced. Price derived from purchase price.

**DIGITRONICS B2500**

27 <sup>A</sup>	RD	300	—	5, 6, 7, 8	—	—	—	—	—	—	—
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A. See 3000.

**DIGITRONICS B3000**

42 <sup>A</sup>	RD	1000	—	5, 6, 7, 8	—	—	—	—	—	—	—
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A. See 3000.

**PAPER-TAPE EQUIPMENT CHARACTERISTICS**

Unit Rental Monthly	Type	Speed	Input — Characters per Second	Output — Characters per Second	Channels	Checking †	Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
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**EAI 421**

38 <sup>A</sup>	RD	300	—	5, 7, 8	—	—	—	—	145 <sup>H</sup>	2	—
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A, H. No rental price announced. Price derived from purchase price.

**EAI 8441**

Modified version of Remex RR-1002R.

**GENERAL ELECTRIC 100 PUNCH**

120	PN	—	100	5, 6, 7, 8	—	—	—	R	—	1	—
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**GENERAL ELECTRIC 100 READER**

110	RD	400	—	5, 6, 7, 8	P	—	—	—	—	1	—
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**GENERAL ELECTRIC 200 PUNCH**

585	PN	—	150	5, 6, 7, 8	—	—	—	P	—	1	—
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**GENERAL ELECTRIC 200 READER**

520	RD	500	—	5, 6, 7, 8	P	—	—	—	—	1	—
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**GENERAL ELECTRIC 200 READER/PUNCH**

990	RP	500	150	5, 6, 7, 8	P	P	—	—	—	1	—
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**GENERAL ELECTRIC 652 READER**

355	RD	500	—	5, 6, 7, 8	P	—	—	—	—	1	—
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**GENERAL ELECTRIC 652 READER/PUNCH**

535	RP	500	150	5, 6, 7, 8	P	P	—	—	—	1	—
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**GENERAL ELECTRIC 4212**

80	RD	100	—	8	P	—	—	—	*	*	—
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Note. Unit not manufactured by General Electric.

† A — activation verification, D — dual read/dual punch, E — echo, H — hole count, P — parity, R — read after write, V — validity.

— none, \* information unavailable.



Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>GENERAL ELECTRIC 4213</b>									
105	RD	200	—	8	P	—	*	*	—
Note. See 4212.									
<b>GENERAL ELECTRIC 4253</b>									
105	PN	—	120	8	—	P	*	*	—
Note. See 4212.									
<b>HONEYWELL 50</b>									
Modified version of Digitronics B2500.									
<b>HONEYWELL 52</b>									
Modified version of Tally P420.									
<b>HONEYWELL 209</b>									
265	RD	600	—	5, 6, 7, 8	P	—	— <sup>H</sup>	1	✓
H. Each device contains its own control unit.									
<b>HONEYWELL 209/2</b>									
315	RD	600	—	5, 6, 7, 8	P	—	— <sup>H</sup>	1	✓
H. See 209.									
<b>HONEYWELL 210</b>									
215	PN	—	120	5, 6, 7, 8	—	P	— <sup>H</sup>	1	✓
H. See 209.									
<b>HONEYWELL 409</b>									
540	RD	1000	—	5, 6, 7, 8	P	—	— <sup>H</sup>	1	—
H. See 209.									
<b>HONEYWELL 410</b>									
540	PN	—	110	5, 6, 7, 8	—	P	— <sup>H</sup>	1	—
H. See 209.									

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>HONEYWELL 809</b>									
690	RD	1000	—	5, 6, 7, 8	P	—	— <sup>H</sup>	1	✓
H. See 209.									
<b>HONEYWELL 810</b>									
690	PN	—	110	5, 6, 7, 8	—	P	— <sup>H</sup>	1	✓
H. See 209.									
<b>IBM 1011</b>									
520	RD	500	—	5, 6, 7, 8	P	—	—	*	—
<b>IBM 1012</b>									
480	PN	—	150	5, 6, 7, 8	—	R	—	*	*
<b>IBM 1054</b>									
30	RD	14.8	—	6	P	—	80	2	—
<b>IBM 1055</b>									
40	PN	—	14.8	6	—	P	80	2	—
<b>IBM 1134/1, 2</b>									
40 <sup>A</sup>	RD	60	—	8	—	—	—	1	—
A. 65 for Model 2.									
<b>IBM 1621/1</b>									
195	RD	150	—	8	P	—	—	1	—
<b>IBM 1621/2</b>									
225	RP	150	15	8	P	PV	—	1	—
<b>IBM 2671</b>									
150	RD	1000	—	5, 6, 7, 8	P	—	225	1	—

\* A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.  
— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>NCR 361/201</b>									
250	RD	600	—	5, 7, 8	P	—	*	2	✓
<b>NCR 371/201</b>									
250	PN	—	120	5, 7, 8	—	P	*	2	✓
<b>NCR 561/1</b>									
215	RD	400	—	5	P	—	*	*	—
<b>NCR 561/2</b>									
240	RD	600	—	5	P	—	*	*	—
<b>NCR 562</b>									
185	RD	650	—	5	P	—	*	*	—
<b>NCR 563</b>									
35	RD	50	—	5	P	—	*	*	—
<b>NCR 571</b>									
140	PN	—	120	5	—	P	*	*	—
<b>NCR 572</b>									
60	PN	—	30	5	—	P	*	*	—
<b>PHILCO 141, 240</b>									
Modified versions of Burroughs B141.									
<b>RCA 70/221</b>									
500	RP	200	100	5, 6, 7, 8	P	P	— <sup>H</sup>	1	—
H. Each device contains its own control unit.									
<b>RCA 70/224</b>									
550	RD	1000	—	5, 6, 7, 8	P	—	— <sup>H</sup>	1	—
H. See 70/221.									

PAPER-TAPE EQUIPMENT CHARACTERISTICS  
200

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>RCA 321</b>									
— <sup>A</sup>	RP	100	100	5, 7	P	AP	— <sup>H</sup>	2	✓
A, H. No price available.									
<b>RCA 322</b>									
— <sup>A</sup>	RD	1000	—	5, 6, 7, 8	P	—	— <sup>H</sup>	2	✓
A, H. See 321.									
<b>RCA 331</b>									
— <sup>A</sup>	PN	—	100	5, 6, 7	—	AP	— <sup>H</sup>	2	✓
A, H. See 321.									
<b>RCA 332</b>									
— <sup>A</sup>	PN	—	300	7	—	AP	— <sup>H</sup>	2	✓
A, H. See 321.									
<b>RCA 512</b>									
396	PN	—	60	5, 7	—	P	— <sup>H</sup>	1	—
H. See 70/221.									
<b>RCA 513</b>									
890	PN	—	300	5, 7	—	P	— <sup>H</sup>	1	—
H. See 70/221.									
<b>RHEEM RR-1002R</b>									
33 <sup>A</sup>	RD	1000	—	5, 6, 7, 8	—	—	—	—	—
A. No rental price announced. Price derived from purchase price.									
<b>RHEEM RRS 302</b>									
30 <sup>A</sup>	RD	300	—	5, 6, 7, 8	—	—	—	—	—
A. See RR-1002R.									

† A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity,  
R - read after write, V - validity.  
— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking† Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
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### ROYTRON 200 SERIES PUNCHES

*	PN	—	23 <sup>D</sup>	5, 6, 7, 8	—	P	—	—	—
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D. Asynchronously to 17 cps.

### ROYTRON 200 SERIES READERS

*	RD	23 <sup>D</sup>	—	5, 6, 7, 8	—	—	—	—	—
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D. See 200 series punches.

### ROYTRON 500 SERIES PUNCHES

25 <sup>A</sup>	PN	—	50	5, 6, 7, 8	—	P	—	—	—
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A. No rental price announced. Price derived from purchase price.

### ROYTRON 500 SERIES READERS

*	RD	50	—	5, 6, 7, 8	—	—	—	—	—
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### ROYTRON 700 SERIES PUNCHES

30 <sup>A</sup>	PN	—	75	5, 6, 7, 8	—	P	—	—	—
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A. See 500 series punches.

### ROYTRON 700 SERIES READERS

*	RD	75	—	5, 6, 7, 8	—	—	—	—	—
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### SCIENTIFIC CONTROL 5210, 6210

*	RD	300	—	8	—	—	*	1	✓
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Note. Unit not manufactured by Scientific Control.

### SCIENTIFIC CONTROL 5225, 6225

*	PN	—	120	8	—	—	*	1	✓
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Note. See 5210.

### SCIENTIFIC DATA 7060

Modified combination of Digitronics B2500 reader and Tally P120 punch.

## PAPER-TAPE EQUIPMENT CHARACTERISTICS

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
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### SCIENTIFIC DATA 9234

Modified combination of NCR 361 reader and NCR 371 punch.

### SEL 80-510A

Modified version of Digitronics B2500.

### SOROBAN SDT 114

180 <sup>A</sup>	PN	—	150	5, 6, 7, 8	—	HP	—	—	—
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A. No rental price announced. Price derived from purchase price.

### SOROBAN SDT 115

500 <sup>A</sup>	RP	300	150	5, 6, 7, 8	P	P	—	—	—
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A. See SDT 114.

### SOROBAN SDT 116

100 <sup>A</sup>	RD	300	—	5, 6, 7, 8	P	—	—	—	—
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A. See SDT 114.

### TALLY 424

16 <sup>A</sup>	RD	60	—	5, 6, 7, 8	—	—	—	—	—
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A. No rental price announced. Price derived from purchase price.

### TALLY 464

18 <sup>A</sup>	RD	120	—	5, 6, 7, 8	—	—	—	—	—
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A. See 424.

### TALLY 625

8 <sup>A</sup>	RD	25	—	5, 6, 7, 8	—	—	—	—	—
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A. See 424.

### TALLY P30

15 <sup>A</sup>	PN	—	30	5, 6, 7, 8	—	—	—	—	—
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A. See 424.

† A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking† Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>TALLY P120</b>									
35 <sup>A</sup>	PN	—	120	5, 6, 7, 8	—	—	—	—	—
A. See 424.									
<b>TALLY P150</b>									
45 <sup>A</sup>	PN	—	150	5, 6, 7, 8	—	—	—	—	—
A. See 424.									
<b>TALLY P420</b>									
300 <sup>A</sup>	PN	—	60	5, 6, 7, 8	—	—	—	—	—
A. See 424.									
<b>UNIVAC 606</b>									
95	PN	—	110	*	—	P	140	2	✓
<b>UNIVAC 901</b>									
1305	RP	1500	110	*	P	P	*	1	✓
<b>UNIVAC 902</b>									
120	RD	400	—	*	P	—	*	*	—
<b>UNIVAC 903/00</b>									
225	RD	1000	—	*	P	—	140	2	✓
<b>UNIVAC 903/01</b>									
120	RD	300	—	*	P	—	140	2	✓
<b>UNIVAC SUB-SYSTEM (USS)</b>									
480	RP	400	110	*	P	P	— <sup>H</sup>	1	✓
H. Each device contains its own control unit.									

PAPER-TAPE EQUIPMENT CHARACTERISTICS

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<i>Denmark</i>									
<b>REGNECENTRALEN 2000</b>									
200	RD	2000	—	5, 6, 7, 8	—	—	*	*	—
<i>England</i>									
<b>EELM 4580/4581</b>									
*	RD	1500	—	5, 7, 8	—	—	*	4	—
<b>EELM 4585</b>									
*	PN	150	—	5, 7, 8	—	—	*	1	—
<b>EELM PT1</b>									
*	RD	1000	—	5, 7	P	—	*	*	—
<b>EELM PT2</b>									
*	PN	—	110	8	—	—	*	*	—
<b>EELM WESTREX</b>									
*	RP	1000	110	5, 7, 8	P	P	*	*	—
<b>ELLIOTT PT1</b>									
*	RP	250	110	5, 6, 7, 8	P	P	*	*	—
<b>ELLIOTT PT2</b>									
*	RP	1000	100	7, 8	P	P	*	*	—
<b>FERRANTI TR6</b>									
*	RP	300	110	5, 7, 8	P	—	*	*	—
<b>ICT 1915</b>									
— <sup>A</sup>	RD	300	—	5, 6, 7, 8	P	—	— <sup>H</sup>	1	—
A, H. Prices quoted only on a particular system configuration.									

† A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity, R - read after write, V - validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking† Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>ICT 1916</b>									
—A	RD	1000	—	5, 6, 7, 8	P	—	—H	1	—
A, H. See 1915.									
<b>ICT 1925</b>									
—A	PN	—	110	5, 6, 7, 8	—	E	—H	1	—
A, H. See 1915.									
<i>Germany (West)</i>									
<b>SIEMENS 2006</b>									
150	RD	400	—	5, 6, 7, 8	P	—	*	*	—
<b>SIEMENS 2007</b>									
175	PN	—	100	5, 6, 7, 8	—	P	*	*	—
<b>SIEMENS 4225</b>									
185	PN	—	100	5, 6, 7, 8	—	P	*	*	—
<b>SIEMENS 4226</b>									
165	RD	400	—	5, 6, 7, 8	P	—	*	*	—
<b>SIEMENS 4227</b>									
145	RD	500 <sup>c</sup>	—	5, 6, 7, 8	P	—	*	*	—
C. Up to 1000 possible.									
<b>ZUSE 5, 6</b>									
70	RD	300	—	5, 6, 7, 8	—	—	*	*	—
<b>ZUSE 1001</b>									
120	RD	1000	—	5, 6, 7, 8	—	—	*	*	—
<b>ZUSE 1501</b>									
140	PN	—	150	5, 6, 7, 8	—	—	*	*	—

PAPER-TAPE EQUIPMENT CHARACTERISTICS

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>ZUSE 2000</b>									
230	RD	2000	—	5, 6, 7, 8	—	—	*	*	—

*Japan*

**FUJITSU FACOM 749A**

* RD	200 <sup>c</sup>	—	6, 8	D	—	*	*	—
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C. Up to 400 possible.

**FUJITSU FACOM 749B**

* RD	600 <sup>c</sup>	—	6, 8	D	—	*	*	—
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C. Up to 1,200 possible.

**FUJITSU FACOM 766A**

* PN	—	200	6, 8	—	R	*	*	—
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**FUJITSU FACOM 767A**

* PN	—	100	6, 8	—	R	*	*	—
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**NIPPON ELECTRIC 104**

295	RD	200	—	6, 8	DP	—	*	*	—
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**NIPPON ELECTRIC 121**

207	RD	1000	—	6, 8	DP	—	*	*	—
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**NIPPON ELECTRIC 151**

333	RD	300	—	6, 8	DP	—	*	*	—
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**NIPPON ELECTRIC 381**

61	PN	—	60	6, 8	—	PR	*	*	—
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† A — activation verification, D — dual read/dual punch, E — echo, H — hole count, P — parity,  
R — read after write, V — validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking† Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>NIPPON ELECTRIC E209</b>									
28	RD	300	—	5, 6, 7, 8	DP	—	*	*	—
<b>NIPPON ELECTRIC E210</b>									
83	PN	—	110	5, 6, 7, 8	—	P	*	*	—
<b>NIPPON ELECTRIC N109A/1, N209A/1</b>									
33 <sup>A</sup>	RD	300	—	5, 6, 7, 8	DP	—	*	*	—
A. 97 for N209A/1.									
<b>NIPPON ELECTRIC N110A/1, N210A/1</b>									
93 <sup>A</sup>	PN	—	60	5, 6, 7, 8	—	P	*	*	—
A. 125 for N210A/1.									
<b>NIPPON ELECTRIC N209</b>									
275	RD	600	—	5, 6, 7, 8	P	—	*	*	—
<b>NIPPON ELECTRIC N209A/2</b>									
291	RD	1000	—	5, 6, 7, 8	DP	—	*	*	—
<b>NIPPON ELECTRIC N210</b>									
445	PN	—	120	5, 6, 7, 8	—	P	*	*	—
<b>NIPPON ELECTRIC N210A/2</b>									
445	PN	—	110	5, 6, 7, 8	—	P	*	*	—
<b>NIPPON ELECTRIC N409A, N809A</b>									
539	RD	500	—	6, 8	P	—	*	*	—
<b>NIPPON ELECTRIC N410A, N810A</b>									
*	PN	—	110	5, 6, 7, 8	—	P	*	*	—

PAPER-TAPE EQUIPMENT CHARACTERISTICS

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>TOSHIBA 115A</b>									
49	RD	400	—	8	—	—	*	*	—
<b>TOSHIBA 117A</b>									
30	RD	200 <sup>C</sup>	—	8	—	—	*	*	—
C. Up to 400 possible.									
<b>TOSHIBA 118A</b>									
36	RD	400	—	6, 8	—	—	*	*	—
<b>TOSHIBA 118H</b>									
70	RD	500 <sup>C</sup>	—	6, 8	—	—	*	*	—
C. Up to 1,000 possible.									
<b>TOSHIBA 200 PUNCH</b>									
558	PN	—	150	8	—	—	*	*	—
<b>TOSHIBA 200 READER</b>									
500	RD	500	—	8	—	—	*	*	—
<b>TOSHIBA 213A</b>									
86	PN	—	67	6, 8	—	—	*	*	—
<b>TOSHIBA 217A</b>									
153	PN	—	100	8	—	—	*	*	—
<b>TOSHIBA 218A</b>									
22	PN	—	15	6, 8	—	—	*	*	—
<b>TOSHIBA 218B</b>									
172	PN	—	100	8	—	—	*	*	—

† A - activation verification, D - dual read/dual punch, E - echo, H - hole count, P - parity,  
R - read after write, V - validity.

— none, \* information unavailable.

Unit Rental Monthly	Type	Speed Input — Characters per Second	Output — Characters per Second	Channels	Checking † Input	Output	Control Unit Monthly Rental	Number of Devices	Buffering
<b>TOSHIBA 651B</b>									
260	RD	250 <sup>C</sup>	—	8	—	—	*	*	—
C. See 118H.									
<b>TOSHIBA 651C, 651E</b>									
190	PN	—	110	6, 7, 8 <sup>E</sup>	—	—	*	*	—
E. Five channels only on 651E.									
<b>TOSHIBA 5102</b>									
56	PN	—	20	8	—	—	*	*	—
<b>TOSHIBA 5110</b>									
111	RD	1000	—	8	—	—	*	*	—
<b>TOSHIBA 5115</b>									
167	PN	—	150	8	—	—	*	*	—

## Display Units

### EXPLANATION OF COLUMN HEADINGS

#### *Unit Rental*

##### Monthly

The monthly rental price of a single unit. A factor of forty is used for deriving rentals when only purchase prices are available.

#### *Display Size*

##### Horizontal

The width, in inches, of the display area of the cathode ray tube.

##### Vertical

The height, in inches, of the display area of the cathode ray tube.

### Alphanumeric Displays

#### *Display Capacity*

##### Characters per Line

The maximum number of characters which can be displayed on each line.

##### Character Lines per Frame

The maximum number of lines of characters which can be displayed.

#### *Special Editing Features*

The methods available for editing: function switch (F) or keyboard (K).

#### *Control Unit*

The device for controlling the operation of the display unit.

##### Monthly Rental

The monthly rental price of the control unit only. If the control unit is an integral part of the display device, the price of the unit is included in the device rental.

##### Number of Devices

The number of display devices which can be attached to a single control unit.

### Line-Drawing Displays

#### *Raster Count*

##### Horizontal

The number of coordinate positions addressable across the width of the cathode ray tube.

Vertical	The number of coordinate positions addressable across the height of the cathode ray tube.
<b>Refresher Rate</b>	The manufacturer's recommended number of frames per second for regenerating the display.
<b>Display Capacity</b>	
Points per Frame — Range	The minimum and maximum number of points which can be drawn flicker-free at the manufacturer's recommended refresher rate.
Two-Inch Lines per Frame	The maximum number of two-inch lines which can be drawn flicker-free at the manufacturer's recommended refresher rate.
Characters per Frame	The maximum number of whole characters which can be drawn flicker-free at the manufacturer's recommended refresher rate.
<b>Input Devices</b>	The methods available for data input: function switch (F), keyboard (K), light pen or pointer (P), or stylus (S).
<b>Control Unit</b>	The device for controlling the operation of the display unit.
Monthly Rental	The monthly rental price of the control unit only. If the control unit is an integral part of the display device, the price of the unit is included in the device rental.
Number of Devices	The number of display devices which can be attached to a single control unit.
Buffer Size — Range	The minimum and maximum number of words reserved for display units and used, with automatic refreshing, to present a flicker-free picture.
Buffer Word Length	The number of binary bits comprising one word of buffer memory.
Character Generator	A check (✓) indicates that a character generator is available.
Remote Operation	A check (✓) indicates that remote connection to an interfacing computer by Dataphone or Dataset is possible.

DISPLAY UNITS COLUMN HEADINGS

Unit Rental Monthly	Display Size Horizontal	Vertical	Display Capacity Characters per Line	Character Lines per Frame	Special Editing Features	Control Units Monthly Rental	Number of Devices
<b>Alphanumeric Displays</b>							
<b>BUNKER-RAMO TELEREGISTER 200</b>							
50	4.37	4.37	64	12	FK <sup>F</sup>	285	216 <sup>H</sup>
F. Consoles available with either numeric or alphanumeric keys or both. H. At 32 characters per console. Note. Can interface by means of a Dataphone.							
<b>BUNKER-RAMO TELEREGISTER 400</b>							
67	7	5	32	12	FK	305	16
Note. See Teleregister 200.							
<b>CONTROL DATA 210</b>							
125	8	6	50	20	K	725	12
Note. Can interface by means of a Dataphone.							
<b>GENERAL ELECTRIC DATANET 760</b>							
75	9.3	7	46	26	FK	580	32 <sup>H</sup>
H. At 184 characters per console. Note. Can interface by means of a Dataphone.							
<b>IBM 2260</b>							
61	9	4	80	12	K	381	24 <sup>H</sup>
H. At 240 characters per console. Note. Can interface by means of a Dataphone.							
<b>RAYTHEON DIDS-400</b>							
167 <sup>A</sup>	8.5	6.5	80	13	FK	— <sup>G</sup>	64
A. For self-contained display and controller, Model 402. G. Each device contains its own control units. Note. Can interface by means of a Dataphone.							
<b>RAYTHEON DIDS-500</b>							
*	15	15	80	34	FKS	*	1

— none, \* information unavailable.



Unit Rental Monthly	Display Size Horizontal	Vertical	Display Capacity Characters per Line	Character Lines per Frame	Special Editing Features	Control Units Monthly Rental	Number of Devices
<b>RCA 70/752</b>							
*	8	5.6	54	20	FK	*	1
Note. Can interface by means of a Dataphone.							
<b>RCA 6051</b>							
45	8	6	32	15	FK	1160	8
Note. See 70/752.							
<b>SANDERS 720</b>							
120	9.4	7	52	40	FK	259	12
Note. Can interface by means of a Dataphone.							
<b>SEL 541 SERIES</b>							
117	4.9	3.4	12	8	—	— <sup>G</sup>	1
G. Each device contains its own control unit.							
<b>STROMBERG-CARLSON 1100</b>							
98	6.5	3.5	50	10	FK	320	24
Note. Can interface by means of a Dataphone.							

DISPLAY UNITS CHARACTERISTICS

Unit Rental Monthly	Display Size Horizontal	Vertical	Raster Count Horizontal	Vertical	Refresh Rate	Display Capacity Points per Frame — Range	Two-Inch Lines per Frame	Character Lines per Frame	Input Devices	Control Unit Monthly Rental	Number of Devices	Buffer Size — Range	Buffer World Length	Character Generator	Remote Operation
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Line-Drawing Displays

<b>BUNKER-RAMO BR90</b>															
3175	13.2	1024	60	444	888	FKPS	— <sup>L</sup>	8K	√						
	13.2	1024			3333			1	12	√					

L. Each device contains its own control unit. Note. Can interface by means of a Dataphone.

<b>CONTROL DATA 250</b>															
1400	12	1024	60	6666	2896	FKP	2470	4-8K	√						
	12	1024			6666			6	24	—					

<b>CONTROL DATA 273</b>															
800	20.5 <sup>B</sup>	4096	30	1000	2222	FP	3500	40K <sup>N</sup>	—						
	20.5	4096		5000	3333			3	12	—					

B. Circular slope face is inscribed in raster area. N. 20,000 words per console at 30 fps; 40,000 words at 15 fps.

<b>CONTROL DATA DD16C</b>															
925	*	1024	*	*	— <sup>H</sup>	—	— <sup>L</sup>	—	—	—					
	*	1024			—			1	12	—					

H. Lines may be drawn in two lengths and either vertically or horizontally. L. Each device contains its own control unit.

<b>DIGITAL EQUIPMENT 338</b>															
1375	9.37	1024	30	687	235	FKP	— <sup>L</sup>	4-32K	√						
	9.37	1024		2222	900			9	12	√					

L. Each device contains its own control unit. Note. Can interface by means of a Dataphone.

<b>DIGITAL EQUIPMENT 340</b>															
984	9.37	1024	30	877	170	P	— <sup>L</sup>	—	—	√					
	9.37	1024			952			5	18	—					

L. See 338.

— none, \* information unavailable.

Unit Rental	Monthly	Display Size	Horizontal	Vertical	Raster Count	Horizontal	Vertical	Refresh Rate	Display Capacity	Points per Frame — Range	Two-Inch Lines per Frame	Characters per Frame	Input Devices	Control Unit	Monthly Rental	Number of Devices	Buffer Size — Range	Buffer World Length	Character Generator	Remote Operation
<b>ELLIOTT 4280</b>																				
945	10	1024	10	1000	947	FKP	— <sup>L</sup>	—	√	—	—	4	24	—	—	—	—	—	—	—
	10	1024	10	20000	4000															
L. Each device contains its own control unit.																				
<b>FERRANTI 400</b>																				
980	12	1024	16.6	1363	3870	FKS	846	4K	√	—	—	12	24	—	—	—	—	—	—	—
	9	1024	10000	3000																
<b>HAZELTINE DDC</b>																				
*	*	945	30	*	*	FKS	—	—	√	—	—	12	12	—	—	—	—	—	—	—
	*	945	6000																	
<b>IBM 2250/I</b>																				
2550	12	1024	40	200	1219	—	— <sup>L</sup>	4.8K	√	—	—	1	8	—	—	—	—	—	—	—
	12	1024	2212	2100																
L. Each device contains its own control unit.																				
<b>IBM 2250/III</b>																				
1825	12	1024	40	208	1282	—	4000	16K	√	—	—	4	16	—	—	—	—	—	—	—
	12	1024	2590	2100																
<b>ICT 1830</b>																				
*	10	1024	10	129	1149	P	*	4.8K	√	—	—	1	6	—	—	—	—	—	—	—
	10	1024	15384	2857																
<b>INFORMATION DISPLAYS 10000 SERIES</b>																				
440	13	1024	30	1851 <sup>G</sup>	2539	FKP	*	— <sup>N</sup>	√	—	—	— <sup>M</sup>	— <sup>P</sup>	√	—	—	—	—	—	—
	13	1024	3333																	
M, N, P. As desired.																				
<b>ITT MACC</b>																				
*	12	1024	40	614	701	FKPS	*	9.2K <sup>N</sup>	√	—	—	1	7	—	—	—	—	—	—	—
	12	1024	3072																	
N. Buffer memory is divided into three pages of 3,072 words each. Only one page may be displayed at a time.																				

Unit Rental	Monthly	Display Size	Horizontal	Vertical	Raster Count	Horizontal	Vertical	Refresh Rate	Display Capacity	Points per Frame — Range	Two-Inch Lines per Frame	Characters per Frame	Input Devices	Control Unit	Monthly Rental	Number of Devices	Buffer Size — Range	Buffer World Length	Character Generator	Remote Operation
<b>GENERAL PRECISION LINK WD/A</b>																				
*	11	1024 <sup>D</sup>	30	4629	166	FKP	*	1.8K	√	—	—	—	—	—	—	—	—	—	—	—
	11	1024 <sup>E</sup>	20833	1666													1 <sup>M</sup>	36	—	—
D, E. 512 x 512 and 2,048 x 2,048 also available. M. The controller is designed to interface with both the display console and a film scanner/recorder CRT.																				
<b>PHILCO READ</b>																				
*	9	1024	30	971	2150	KP	*	—	√	—	—	15	18	—	—	—	—	—	—	—
	9	1024	5291	5555																
<b>RAYTHEON DIDS 1500</b>																				
*	12	512	48	596	1360	FK	*	4K	√	—	—	1	18	—	—	—	—	—	—	—
	12	512	1365	4096																
<b>RCA 6370</b>																				
*	12	1024	60	*	*	FKS	*	2.7K <sup>N</sup>	√	—	—	1	12	—	—	—	—	—	—	—
	12	1024	2720																	
N. Buffer memory is divided into two pages of 1,360 words each. Only one page may be displayed at a time.																				
<b>SCIENTIFIC DATA 9185</b>																				
190	10	1024	30	1666	1666	P	285	—	√	—	—	1	24	—	—	—	—	—	—	—
	10	1024	3703	416																
<b>SEL 80-816</b>																				
*	9	643	60	595	1190	FKP	*	.5.8K	√	—	—	1	24	—	—	—	—	—	—	—
	9	643	595																	
<b>STROMBERG-CARLSON 1000 SERIES</b>																				
765	12	512	30	1234	401	FKPS	*	1K	√	—	—	1	36	—	—	—	—	—	—	—
	12	512	2222	2083																
<b>TASKER 9000 SERIES</b>																				
1730 <sup>A</sup>	17.5	2048	60	3703	4166	FKPS	— <sup>L</sup>	.25-16K	√	—	—	8	12	—	—	—	—	—	—	—
	12	1404	27777	6666																
L. Each device contains its own control unit. Note. Can interface by means of a Dataphone.																				

— none, \* information unavailable.

**SECTION II - PART B**

**DEVICE INTERFACE CHARTS**

The two charts that follow show commercially-available peripheral devices that can be interfaced with the central processors of other manufacturers. Except for the display units on the second chart, no attempt has been made to include peripheral devices which either are supplied by the central processor manufacturer or, though available, serve only to supplement its own product line.

1. RECOMP II
2. Beckman 420
3. BIT 480
4. DEC PDP-6, -10
5. DEC LINC-8, PDP-1, -4, -5, -8
6. DIGIAC 3080
7. DMI 620
8. IC 6000
9. MONROBOT XI
10. PDS 1020
11. Philco 2000 Series
12. PRODAC 50, 500
13. PRODAC 250
14. Raytheon 250, 440
15. Raytheon 520
16. EELM Leo 326, 360
17. ICT Atlas 2
18. ICT Orion 2

Auxiliary Storage

- Burroughs B475
- CDC 852
- Data Products 5025
- Digital Development 7300 Series
- SDS 7201, 7211
- UNIVAC FH330, FH880
- Vermont Research Drums

Magnetic Tape

- Amplex TM 7, 9, 11, 12
- Burroughs B420 Series
- CDC 607
- Datamec D2020, D3030
- Midwestern 4000 Series
- Potter 906 Mark II
- SDS 7300 Series

Card Equipment

- Burroughs B122
- Burroughs B124
- Burroughs B129
- Burroughs B303
- IBM 24, 26
- IBM 1402
- NCR 376
- NCR 582
- Soroban SDT 111
- Uptime SR 400
- Uptime SR 800
- Uptime SR 1500
- Univac 600
- Univac 703, 706
- ICT 582
- ICT 593

Line Printers Paper-Tape Equipment

- Anelex 4000
- Anelex 5000
- NCR 340
- Potter 3502
- Digitronics B2500
- GE 210
- Rheem RRS 302
- Koytron 200, 500, 700
- Soroban SDT 115
- Tally Punches
- Elliott PT2
- Ferranti TR6

## Alphanumeric

## Line-Drawing

	CDC 210	DIDS 500	IBM 2260	RCA 70/752	RCA 6051	Sanders 720	Teleregister 200	B-R 90	GDC 250	GDC 273	DEC 338	DEC 340	Elliott 4280	IBM 2250/L, III	ICT 1830	IDI 10000	LINK WD/A	Philco READ	SDS 9185	SEL 80/816	Tasker 9000	
Burroughs B5500						*																
CDC 160, 1604	*							*														
CDC 160A	*																					
CDC 3000 Series	*																					
CDC 6000 Series	*																					
DEC PDP-1													*									
DEC PDP-4													*									
DEC PDP-6, -10													*									
DEC PDP-7													*									
DEC PDP-8													*									
DEC PDP-9													*									
Elliott 4120, 4130													*									
GE 425																*						
GE DATANET-30						*																
Honeywell DDP Series			*			*	*							*		*						
IBM 360 Series	*					*	*	*							*				*			
IBM 1410						*	*															
IBM 1800						*	*															
IBM 7010	*					*	*															
IBM 7044						*	*															
IBM 7090						*	*															
IBM 7094						*	*															
ICT 1900 Series													*									
Raytheon 250, 440																*						
RCA 301, 3301						*	*															
RCA SPECTRA 70 Series				*		*	*															
SDS 92																						
SDS 930	*																					
SDS 9300																						
SDS SIGMA 7																						
SEL 810, 840			*																			
UNIVAC 418						*	*										*					
UNIVAC 490						*	*									*	*					
UNIVAC 1107						*	*									*	*					
UNIVAC 1108						*	*									*	*					

## DEVICE INTERFACE CHARTS

## SECTION III

## CATEGORIZATIONS

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### SECTION III - PART A

## SYSTEM CONFIGURATIONS

The tables on the following pages list the monthly rental price, generally based on a five-year lease, for the commercially-available U.S.-manufactured central processors and related peripheral devices in each of the four system configurations described in italics. Prices include the cost of peripheral controllers and interfaces where required. Central processors that are no longer being marketed, fall entirely outside the range of these configurations, or for which price information is unavailable have been omitted.

Since most central processors are modular with respect to internal memory expansion and versatile insofar as attachable peripherals are concerned, some processors may appear under more than one configuration. Reasonable variance from the configurations defined has been allowed, but any excessive difference is footnoted.

## BASIC CARD SYSTEM

*Central processor: 4,000 words or 16,000 bytes of memory. Card reader: 800-1,000 cards per minute. Card punch: 250-300 cards per minute. Line printer: 700-1,000 lines per minute.*

ADVANCED SCIENTIFIC 210	3,000
ADVANCED SCIENTIFIC 2100	4,050
ADVANCED SCIENTIFIC ADVANCE 6000 Series	6,275
ADVANCED SCIENTIFIC ADVANCE 6130	2,790
BURROUGHS B263	4,570
BURROUGHS B283	4,750
BURROUGHS B300	4,570
BURROUGHS B2500	3,910
BURROUGHS B3500	4,510
BURROUGHS B5500	12,625
CONTROL DATA 160	3,590 <sup>1</sup>
CONTROL DATA 160A	4,340 <sup>1</sup>
CONTROL DATA 160G	6,990
CONTROL DATA 1700	2,200
CONTROL DATA 8090	4,540
CONTROL DATA 8092	2,920
DIGITAL EQUIPMENT PDP-8	4,150 <sup>2</sup>
GENERAL ELECTRIC 115	2,650 <sup>3</sup>
GENERAL ELECTRIC 235	6,050 <sup>4</sup>
GENERAL ELECTRIC GE/PAC 4040	2,575 <sup>2,3,5</sup>
GENERAL ELECTRIC GE/PAC 4050 I, II	2,870 <sup>2,3,5</sup>
HONEYWELL 200/120	2,475
HONEYWELL 200/200	2,740
HONEYWELL 800	13,210
HONEYWELL 1400	9,460
HONEYWELL 1800	20,710
HONEYWELL DDP-224	4,000
HONEYWELL DDP-416	1,850 <sup>6</sup>
HONEYWELL DDP-516	2,050 <sup>6</sup>
IBM 360/20	2,750
IBM 360/30	3,450
IBM 360/40	4,400
IBM 360/40	4,400
IBM 1130	1,280 <sup>7</sup>
NCR 315	4,950
NCR 315/100	4,150
NCR 315/RMC-501	5,950

RAYTHEON 250	2,930
RAYTHEON 520	4,075
RCA SPECTRA 70/25	4,220
RCA SPECTRA 70/35	4,325
RCA SPECTRA 70/45	5,875
RCA 301	4,040
SCIENTIFIC CONTROL 650	2,200 <sup>4,5</sup>
SCIENTIFIC CONTROL 655	2,525 <sup>4,5</sup>
SCIENTIFIC CONTROL 660/2	3,060 <sup>4,5</sup>
SCIENTIFIC CONTROL 660/5	2,450 <sup>4,5</sup>
SCIENTIFIC CONTROL 670/2	3,410 <sup>4,5</sup>
SCIENTIFIC DATA SDS 930	4,720
SCIENTIFIC DATA SDS 940	7,920
SCIENTIFIC DATA SDS 9300	5,970
SCIENTIFIC DATA SIGMA 2	3,250
SCIENTIFIC DATA SIGMA 5	4,180
SCIENTIFIC DATA SIGMA 7	6,240
SEL 810A	2,060 <sup>5</sup>
SEL 840A	2,825 <sup>5</sup>
UNIVAC 418	3,225
UNIVAC 1004 I	1,210
UNIVAC 1004 II	1,270
UNIVAC 1004 III	1,080
UNIVAC 1005 I, II	1,410
UNIVAC 1005 III	1,470
UNIVAC 9200	1,370
UNIVAC 9300	1,610

<sup>1</sup> 250 cpm reader  
<sup>2</sup> 300 lpm printer  
<sup>3</sup> 300 cpm reader  
<sup>4</sup> 400 cpm reader  
<sup>5</sup> 100 cpm punch  
<sup>6</sup> No punch available  
<sup>7</sup> 160 cpm punch

## BASIC TAPE SYSTEM

Central processor: 8,000 words or 32,000 bytes of memory. Card reader: 800-1,000 cards per minute. Card punch: 250-300 cards per minute. Line printer: 700-1,000 lines per minute. Four magnetic tape units: 60kc-90kc.

ADVANCED SCIENTIFIC 210	7,400
ADVANCED SCIENTIFIC 2100	6,670
ADVANCED SCIENTIFIC ADVANCE 6000 Series	9,975
ADVANCED SCIENTIFIC ADVANCE 6130	5,450
BURROUGHS B2500	7,740
BURROUGHS B3500	8,390
BURROUGHS B5500	17,440
CONTROL DATA 160A	8,340 <sup>1,8</sup>
CONTROL DATA 160G	10,960
CONTROL DATA 1700	4,240 <sup>9</sup>
CONTROL DATA 3100	11,100
CONTROL DATA 3300	11,900
CONTROL DATA 3600	19,450
CONTROL DATA 3800	20,360
CONTROL DATA 8090	7,600
DIGITAL ELECTRONICS DIGIAC 3080	1,150 <sup>4</sup>
DIGITAL EQUIPMENT PDP-8	8,550 <sup>2</sup>
DIGITAL EQUIPMENT PDP-10 Series	7,270 <sup>5,10</sup>
GENERAL ELECTRIC 235	10,075 <sup>4</sup>
GENERAL ELECTRIC 415	8,540
GENERAL ELECTRIC 425	9,520
GENERAL ELECTRIC GE/PAC 4020	6,120 <sup>2,3,5</sup>
GENERAL ELECTRIC GE/PAC 4040	6,080 <sup>2,3,5</sup>
GENERAL ELECTRIC GE/PAC 4050 I, II	6,450 <sup>2,3,5</sup>
GENERAL ELECTRIC GE/PAC 4060	6,790 <sup>2,3,5</sup>
HONEYWELL 200/120	3,870
HONEYWELL 200/200	4,150
HONEYWELL 800	20,410 <sup>11</sup>
HONEYWELL 1400	14,660
HONEYWELL 1800	26,310
HONEYWELL DDP-124	23,410
HONEYWELL DDP-224	7,580
HONEYWELL DDP-416	5,650 <sup>9</sup>
HONEYWELL DDP-516	7,650 <sup>6</sup>

IBM 360/20	3,980
IBM 360/30	7,470
IBM 360/40	8,420
IBM 360/44	8,320
IBM 1130	1,490 <sup>7</sup>
IBM 1710 I, II	3,880
IBM 1800	6,300
NCR 315	9,050
NCR 315/100	8,750
NCR 315/RMC-501	9,680
RAYTHEON 250	6,090
RAYTHEON 520	7,375
RCA SPECTRA 70/25	10,650
RCA SPECTRA 70/35	11,150
RCA SPECTRA 70/45	12,225
RCA 301	7,400
RCA 3301	10,910
SCIENTIFIC CONTROL 650	4,830 <sup>4,5</sup>
SCIENTIFIC CONTROL 655	5,170 <sup>4,5</sup>
SCIENTIFIC CONTROL 660/2	5,750 <sup>4,5</sup>
SCIENTIFIC CONTROL 660/5	5,090 <sup>4,5</sup>
SCIENTIFIC CONTROL 670/2	6,190 <sup>4,5</sup>
SCIENTIFIC DATA SDS 930	7,780
SCIENTIFIC DATA SDS 940	10,980
SCIENTIFIC DATA SDS 9300	9,080
SCIENTIFIC DATA SIGMA 2	6,370
SCIENTIFIC DATA SIGMA 5	7,410
SCIENTIFIC DATA SIGMA 7	9,470
SEL 810A	4,460 <sup>5</sup>
SEL 840A	5,375 <sup>5</sup>
SEL 840MP	5,370 <sup>5</sup>
UNIVAC 418	4,440
UNIVAC 1004 III	1,820
UNIVAC 1005 III	2,200
UNIVAC 9300	3,460

- <sup>1</sup> 250 cpm reader
- <sup>2</sup> 300 lpm printer
- <sup>3</sup> 300 cpm reader
- <sup>4</sup> 400 cpm reader
- <sup>5</sup> 100 cpm punch
- <sup>6</sup> No punch available
- <sup>7</sup> 160 cpm punch
- <sup>8</sup> 30kc tapes
- <sup>9</sup> 20.8kc tapes
- <sup>10</sup> 15kc tapes
- <sup>11</sup> 120kc tapes



## BASIC SECONDARY STORAGE SYSTEM

Central processor: 16,000 words or 64,000 bytes of memory. Card reader: 800-1,000 cards per minute. Card punch: 250-300 cards per minute. Line printer: 700-1,000 lines per minute. Four magnetic tape units (60kc-90kc). Secondary storage: 7-10 million bytes.

BURROUGHS B2500	10,560
BURROUGHS B3500	11,360
BURROUGHS B5500	21,170
BURROUGHS B6500	24,890
CONTROL DATA 3100	13,410
CONTROL DATA 3300	14,010
CONTROL DATA 3600	20,510
CONTROL DATA 3800	21,420
CONTROL DATA 6600	53,920
DIGITAL EQUIPMENT PDP-10 Series	11,570 <sup>5,10</sup>
GENERAL ELECTRIC 235	13,300 <sup>4,12</sup>
GENERAL ELECTRIC 415	11,890 <sup>13</sup>
GENERAL ELECTRIC 425	12,870 <sup>12</sup>
GENERAL ELECTRIC 435	15,780 <sup>12</sup>
GENERAL ELECTRIC GE/PAC 4020	7,390 <sup>2,3,5</sup>
GENERAL ELECTRIC GE/PAC 4040	7,780 <sup>2,3,5</sup>
GENERAL ELECTRIC GE/PAC 4050 I, II	8,220 <sup>2,3,5</sup>
GENERAL ELECTRIC GE/PAC 4060	8,590 <sup>2,3,5</sup>
HONEYWELL 200/120	5,400
HONEYWELL 200/200	5,680
HONEYWELL 200/1200	6,190
HONEYWELL 200/2200	7,080
IBM 360/20	5,120
IBM 360/30	9,840
IBM 360/40	10,790
IBM 360/44	10,690
IBM 360/50	14,450
NCR 315	13,250 <sup>13</sup>
NCR 315/100	12,450 <sup>13</sup>
NCR 315/RMC-501	12,520 <sup>13</sup>
NCR 315/RMC-502	15,150 <sup>13</sup>
RAYTHEON 250	8,190
RAYTHEON 520	9,600

RCA SPECTRA 70/25	13,040
RCA SPECTRA 70/35	13,430
RCA SPECTRA 70/45	14,770
RCA SPECTRA 70/55	17,890
SCIENTIFIC DATA SDS 930	12,140
SCIENTIFIC DATA SDS 940	15,340
SCIENTIFIC DATA SDS 9300	13,640
SCIENTIFIC DATA SIGMA 2	8,930
SCIENTIFIC DATA SIGMA 5	10,290
SCIENTIFIC DATA SIGMA 7	12,350
SEL 810A	6,820
SEL 840A	8,025
SEL 840MP	7,700
UNIVAC 418	9,180 <sup>14</sup>

<sup>2</sup> 300 lpm printer

<sup>3</sup> 300 cpm reader

<sup>4</sup> 400 cpm reader

<sup>5</sup> 100 cpm punch

<sup>10</sup> 15kc tapes

<sup>12</sup> 23M bytes of secondary storage

<sup>13</sup> CRAM used as secondary storage

<sup>14</sup> 132M bytes of secondary storage

## TYPICAL SECONDARY STORAGE SYSTEM

Central processor: 32,000 words or 128,000 bytes of memory. Card reader: 800-1,000 cards per minute. Card punch: 250-300 cards per minute. Line printer: 700-1,000 lines per minute. Eight magnetic tape units: 60kc-90kc. Secondary storage: 25 million bytes.

BURROUGHS B3500	17,360
BURROUGHS B5500	27,675
BURROUGHS B6500	32,340
CONTROL DATA 3100	19,320
CONTROL DATA 3300	19,870
CONTROL DATA 3600	34,370
CONTROL DATA 3800	37,480
CONTROL DATA 6400	35,480
CONTROL DATA 6600	57,480
DIGITAL EQUIPMENT PDP-10 Series	20,640 <sup>5,10</sup>
GENERAL ELECTRIC 415	16,850
GENERAL ELECTRIC 425	16,790
GENERAL ELECTRIC 435	20,120
GENERAL ELECTRIC 625	27,450
GENERAL ELECTRIC 635, 645	28,120
GENERAL ELECTRIC GE/PAC 4020	13,360 <sup>2,3,5</sup>
GENERAL ELECTRIC GE/PAC 4050 I, II	14,050 <sup>2,3,5</sup>
GENERAL ELECTRIC GE/PAC 4060	14,340 <sup>2,3,5</sup>
HONEYWELL 200/4200	14,150 <sup>15</sup>
HONEYWELL 200/8200	28,370 <sup>16</sup>
IBM 360/20	6,770 <sup>17</sup>
IBM 360/30	10,920
IBM 360/40	15,690
IBM 360/44	15,580
IBM 360/50	19,340
IBM 360/65	29,390
IBM 360/67	36,210
IBM 360/75	41,800 <sup>16</sup>
IBM 1800	9,900
NCR 315/RMC	22,470 <sup>13</sup>
RAYTHEON 520	17,475
RCA SPECTRA 70/45	21,910
RCA SPECTRA 70/55	25,250

SCIENTIFIC DATA SDS 930	23,540
SCIENTIFIC DATA SDS 940	26,740
SCIENTIFIC DATA SDS 9300	25,540
SCIENTIFIC DATA SIGMA 2	16,460
SCIENTIFIC DATA SIGMA 5	18,700
SCIENTIFIC DATA SIGMA 7	20,920
SEL 810A	12,690
SEL 840A	14,475
SEL 840MP	13,170
UNIVAC 418	11,220 <sup>14</sup>
UNIVAC 494	30,920 <sup>14</sup>
UNIVAC 1108 II	46,575 <sup>14</sup>

<sup>2</sup> 300 lpm printer

<sup>3</sup> 300 cpm reader

<sup>5</sup> 100 cpm punch

<sup>10</sup> 15kc tapes

<sup>13</sup> CRAM used as secondary storage

<sup>14</sup> 132M bytes of secondary storage

<sup>15</sup> 65K bytes of internal memory

<sup>16</sup> 262K bytes of internal memory

<sup>17</sup> Six tape units

**SECTION III - PART B**

**APPLICATIONS**

The five tables in this part show the application areas in which the commercially-available U.S.-manufactured central processors listed are generally used. Where appropriate, some processors appear in more than one category.

### SMALL-MEDIUM BUSINESS

<i>Central Processor</i>	<i>Minimum Monthly Rental</i>	<i>First Delivery Date</i>
<b>BURROUGHS</b>		
B160, B170, B180	1,900	Apr. 64
B250	2,800	Sep. 61
B260, B270, B280	6,500	Jul. 62
B263, B273, B283	7,100	Jan. 64
B300	4,800	Jul. 65
B2500	4,200	May 67
B3500	4,800	May 67
<b>CONTROL DATA</b>		
3100	3,000	Feb. 65
3200*	5,000	May 64
3300	5,500	Dec. 65
<b>GENERAL ELECTRIC</b>		
115	1,300	Apr. 66
205*	1,700	Jul. 64
210*	10,500	Nov. 60
215*	2,500	Sep. 63
225*	2,500	Apr. 61
235	6,000	Apr. 64
415	4,800	May 64
425	6,000	Jun. 64
435	8,000	Sep. 65
<b>HONEYWELL</b>		
200/120	1,600	Feb. 66
200/200	3,000	Jul. 64
200/1200	9,000	Jan. 66
200/2200	5,000	Dec. 65
400*	6,000	Dec. 61
1400	10,000	Dec. 63
<b>IBM</b>		
360/20	1,200	Jan. 66
360/30	2,700	May 65
360/40	5,000	May 65
1401*	1,900	Sep. 60
1410*	6,000	Nov. 61
1440*	1,500	Nov. 63
1460*	3,500	Oct. 63
7010*	12,000	Oct. 63
<b>MONROE</b>		
MONROBOT XI	700	May 60

<i>Central Processor</i>	<i>Minimum Monthly Rental</i>	<i>First Delivery Date</i>
<b>NCR</b>		
315	3,800	Jan. 62
315/100	2,200	Nov. 64
315/RMC-501	9,000	Jul. 65
315/RMC-502	9,000	May 67
390	1,400	May 61
500	760	Sep. 65
<b>PHILCO</b>		
1000	4,000	Jun. 63
<b>RCA</b>		
SPECTRA 70/15	2,400	Oct. 65
SPECTRA 70/25	4,000	Dec. 65
SPECTRA 70/35	3,000	Oct. 66
301	3,300	Feb. 61
501*	11,000	Nov. 59
3301	9,000	Jul. 64
<b>UNIVAC</b>		
1004I	800	Sep. 63
1004II, III	1,300	Jun. 64
1005I	1,000	Feb. 66
1005II, III	1,600	Feb. 66
1050III*	2,400	Sep. 63
9200	1,000	Jun. 67
9300	1,700	Sep. 67
SS 80/90 I, II*	3,600	Jan. 60
UIII*	16,600	Jun. 62

\* System no longer marketed

## MEDIUM-LARGE BUSINESS

<i>Central Processor</i>	<i>Minimum Monthly Rental</i>	<i>First Delivery Date</i>
<b>BURROUGHS</b>		
B5500	16,000	Nov. 64
B6500	25,000	Jan. 68
B8500	100,000	Jan. 67
<b>CONTROL DATA</b>		
3400*	17,000	Nov. 64
3500	6,000	Mar. 67
G-20*	12,000	Apr. 61
<b>GENERAL ELECTRIC</b>		
625	31,000	Apr. 65
635, 645	35,000	May 65
<b>HONEYWELL</b>		
200/4200	25,000	Dec. 66
200/8200	33,000	Dec. 67
800	19,000	Dec. 60
1800	27,000	Nov. 63
<b>IBM</b>		
360/50	14,000	Sep. 65
360/65, 67	34,000	Mar. 66
360/75	17,000	Nov. 65
360/90	125,000	Feb. 67
7070*	12,000	Jun. 60
7072*	14,000	Jun. 62
7074*	17,000	Dec. 61
<b>RCA</b>		
SPECTRA 70/45	8,000	Jul. 66
SPECTRA 70/55	14,000	Jul. 66
<b>SCIENTIFIC DATA</b>		
SIGMA 7	5,000	Dec. 66
<b>UNIVAC</b>		
490*	18,000	Dec. 61
491, 492*	13,000	Oct. 65
494	28,000	Mar. 66

\* System no longer marketed

### SMALL-MEDIUM SCIENTIFIC

Central Processor	Minimum Monthly Rental	First Delivery Date
ADAGE		
AMBILOG 200	1,100	Aug. 64
ADVANCED SCIENTIFIC		
210	2,000	Apr. 62
2100	2,500	Dec. 63
ADVANCE 6000 Series	2,000	Jan. 67
ADVANCE 6130	800	Mar. 65
AUTONETICS		
RECOMP II*	2,500	Nov. 58
BECKMAN		
420*	2,200	Jun. 64
BIT		
480	240	Dec. 66
CONTROL DATA		
160	1,500	Jul. 60
160A	2,200	Jul. 61
160G	3,900	Apr. 64
924A*	8,000	Aug. 61
3100	3,000	Feb. 65
3200*	5,000	May 64
3300	5,500	Dec. 65
LGP-21*	500	Mar. 65
RPC 4000*	1,800	Nov. 60
DATA MACHINES		
610 Series	300	Jul. 64
620	600	Jul. 65
DIGITAL ELECTRONICS		
DIGIAC 3080	370	Dec. 64
DIGITAL EQUIPMENT		
PDP-1*	3,600	Nov. 60
PDP-4*	1,000	Jul. 62
PDP-5*	6,000	Sep. 63
PDP-7*	1,200	Dec. 64
PDP-8	450	Apr. 65
PDP-8/S	250	Sep. 66
PDP-9	800	Aug. 66

Central Processor	Minimum Monthly Rental	First Delivery Date
GENERAL ELECTRIC		
225*		
415	2,500	Apr. 61
425	4,800	May 64
435	6,000	Jun. 64
	8,000	Sep. 65
HONEYWELL		
DDP-24*	900	Jun. 63
DDP-116*	900	Apr. 65
DDP-124	1,900	Jan. 66
DDP-224	2,500	Mar. 65
DDP-416	400	Apr. 67
DDP-516	600	Oct. 66
IBM		
360/44	5,000	Oct. 66
1130	600	Sep. 65
1620*	1,600	Oct. 60
PACIFIC DATA		
PDS 1020	450	Feb. 64
RAYTHEON		
250	1,000	Dec. 60
440*	1,600	Mar. 64
520	2,000	Oct. 65
SCIENTIFIC CONTROL		
650	400	Apr. 60
655	750	Jun. 66
660/2, 670/2	1,600	Nov. 65
660/5	700	Nov. 65
6700	10,000	Sep. 67
SCIENTIFIC DATA		
SDS 92*	1,000	Feb. 65
SDS 910, 920*	2,000	Sep. 62
SDS 925, 930	2,000	Jun. 64
SIGMA 2	900	Dec. 66
SIGMA 5	2,500	Aug. 67
SEL		
810A	500	Jul. 65
840A, 840 MP	1,100	Jul. 65
STANDARD COMPUTER		
IC 6000/19, 29, 39	8,600	Nov. 66
UNIVAC		
418	4,000	Sep. 64

\* System no longer marketed

### MEDIUM-LARGE SCIENTIFIC

<i>Central Processor</i>	<i>Minimum Monthly Rental</i>	<i>First Delivery Date</i>
<b>BURROUGHS</b>		
B5500	16,000	Nov. 64
B6500	25,000	Jan. 68
B8500	100,000	Jan. 67
<b>CONTROL DATA</b>		
1604A*	30,000	Jan. 60
3400*	17,000	Nov. 64
3500	6,000	Mar. 67
3600	38,000	Jun. 63
3800	42,000	Dec. 65
6400	37,000	Apr. 66
6600	62,000	Sep. 64
6800	62,000	Jun. 67
G-20*	12,000	Apr. 61
<b>DIGITAL EQUIPMENT</b>		
PDP-6*	6,200	Oct. 64
PDP-10 Series	6,000	Sep. 67
<b>GENERAL ELECTRIC</b>		
235	6,000	Apr. 64
625	31,000	Apr. 65
635, 645	35,000	May 65
<b>HONEYWELL</b>		
200/4200	25,000	Dec. 66
200/8200	33,000	Dec. 66
800	19,000	Dec. 60
1400	10,000	Dec. 63
1800	27,000	Nov. 63
<b>IBM</b>		
360/50	14,000	Sep. 65
360/65, 67	34,000	Mar. 66
360/70	47,000	Nov. 65
360/90	125,000	Feb. 67
7040*	9,000	Apr. 63
7044*	20,000	Jul. 63
7090*	60,000	Jun. 60
7094I*	66,000	Sep. 62
7094II*	72,000	Apr. 64

<i>Central Processor</i>	<i>Minimum Monthly Rental</i>	<i>First Delivery Date</i>
<b>PHILCO</b>		
2000/210	20,000	Nov. 58
2000/211	24,000	Mar. 60
2000/212	45,000	Feb. 63
2000/213	55,000	— —
<b>RCA</b>		
SPECTRA 70/45	8,000	Jul. 66
SPECTRA 70/55	14,000	Jul. 66
<b>SCIENTIFIC DATA</b>		
SDS 940	14,000	Apr. 66
SIGMA 7	5,000	Dec. 66
<b>UNIVAC</b>		
494	28,000	Mar. 66
1107*	32,000	Sep. 62
1108II	45,000	Aug. 65

\* System no longer marketed

**REAL-TIME**

<i>Central Processor</i>	<i>Minimum Monthly Rental</i>	<i>First Delivery Date</i>
ADAGE AMBILOG 200	1,100	Aug. 64
ADVANCED SCIENTIFIC ADVANCE 6130	800	Jan. 67
BECKMAN 420*	2,200	Jun. 64
BIT 480	240	Dec. 66
COLLINS C-8500	2,500	Jan. 67
CONTROL DATA 924A*	8,000	Aug. 61
1700	1,100	Mar. 66
8090	—	Jul. 64
8092	—	— 64
DATA MACHINES 610 Series	300	Jul. 64
620	600	Jul. 65
DIGITAL ELECTRONICS DIGIAC 3080	370	Dec. 64
DIGITAL EQUIPMENT LINC-8	1,000	Jul. 66
PDP-4*	1,000	Jul. 62
PDP-5*	6,000	Sep. 63
PDP-7*	1,200	Dec. 64
PDP-8	450	Apr. 65
PDP-8/S	250	Sep. 66
PDP-9	800	Aug. 66
EAI 640	28,000	Feb. 67
8400	7,000	Jul. 65
GENERAL ELECTRIC 412	—	Jul. 62
DATANET-30	1,500	Oct. 63
GE/PAC 4020	—	Oct. 66
GE/PAC 4040	—	Apr. 64
GE/PAC 4050I	—	Jun. 65
GE/PAC 4050II	—	Jun. 66
GE/PAC 4060	—	Jun. 65

<i>Central Processor</i>	<i>Minimum Monthly Rental</i>	<i>First Delivery Date</i>
HONEYWELL DDP-116*	900	Apr. 65
DDP-416	400	Apr. 67
DDP-516	600	Oct. 66
H21, H22*	—	Oct. 65
H610, H620*	—	Dec. 63
HUGHES H-3118	—	May 64
H-3118M	—	Jan. 66
H-3324	—	Mar. 65
HM-4118	—	Mar. 66
IBM 1710I, II	—	Feb. 62
1800	—	Feb. 66
7700	—	Mar. 64
PHILCO 102	6,000	Nov. 65
RAYTHEON 520	2,000	Oct. 65
SCIENTIFIC CONTROL 650	400	Apr. 60
655	750	Jun. 66
660/2, 670/2	1,600	Nov. 65
660/5	700	Nov. 65
SCIENTIFIC DATA SDS 92*	1,000	Feb. 65
SDS 910, 920*	2,000	Sep. 62
SDS 925, 930	2,000	Jun. 64
SIGMA 2	900	Dec. 66
STANDARD COMPUTER IC 6000/19, 29, 39	8,600	Nov. 66
SEL 810A	500	Jul. 65
UNIVAC 490*	18,000	Dec. 61
491, 492*	13,000	Oct. 65
WESTINGHOUSE PRODAC 50	500	Aug. 64
PRODAC 250	1,250	Sep. 67
PRODAC 500	2,250	Jun. 63

\* System no longer marketed



**SECTION III - PART C**

**INTERNAL STORAGE  
CHARACTERISTICS**

In the first of the two tables that follow, central processors have been segmented according to the number of information bits transferred in the cycle times given by the manufacturer, and ordered within each segment according to ascending cycle times. In the second table, central processors are arranged in descending order according to the number of information bits transferred per microsecond. Only commercially-available U.S.-manufactured central processors are included in these tables.

## BITS PER CYCLE

<i>Bits per Cycle</i>	<i>Central Processor</i>	<i>Cycle Time (in micro- seconds)</i>	<i>Bits per Micro- second</i>	
6	IBM 7080*	2.0	3.00	
	IBM 7010*	2.4	2.50	
	PHILCO 1000	3.5	1.71	
	IBM 1410*	4.5	1.33	
	UNIVAC 1050 III*	4.5	1.33	
	BURROUGHS B263, B273, B283	6.0	1.00	
	BURROUGHS B300	6.0	1.00	
	IBM 1460*	6.0	1.00	
	BURROUGHS B160, B170, B180	10.0	0.60	
	BURROUGHS B250	10.0	0.60	
	BURROUGHS B260, B270, B280	10.0	0.60	
	IBM 1620 II*	10.0	0.60	
	IBM 1710 II	10.0	0.60	
	IBM 1401*	11.5	0.51	
	IBM 1440*	11.5	0.51	
	IBM 1620 I*	20.0	0.30	
	IBM 1710 I	20.0	0.30	
8	UNIVAC 9300	0.6	13.34	
	UNIVAC 9200	1.2	6.67	
	IBM 360/30	1.5	5.33	
	RCA SPECTRA 70/15	2.0	4.00	
	CONTROL DATA 8092'	4.0	2.00	
	GENERAL ELECTRIC 115	6.5	1.21	
	UNIVAC 1004 II, III	6.5	1.21	
	UNIVAC 1005 II, III	6.5	1.21	
	IBM 360/20	7.2	1.11	
	BIT 480	8.0	1.00	
	UNIVAC 1004 I	8.0	1.00	
	UNIVAC 1005 I	8.0	1.00	
	12	NCR 315/RMC-501	0.8	15.00
		NCR 315/RMC-502	0.8	15.00
DIGITAL EQUIPMENT LINC-8		1.5	8.00	
DIGITAL EQUIPMENT PDP-8		1.5	8.00	
RCA 3301		1.5	8.00	
SCIENTIFIC DATA SDS 92*		1.75	7.00	
SCIENTIFIC CONTROL 650		2.0	6.00	
RCA 301		4.8	2.50	
DIGITAL EQUIPMENT PDP-5*		6.0	2.00	
NCR 315		6.0	2.00	
NCR 315/100		6.0	2.00	
CONTROL DATA 160		6.4	1.88	
CONTROL DATA 160A		6.4	1.88	
CONTROL DATA 8090	6.4	1.88		

\* System no longer marketed

Bits per Cycle	Central Processor	Cycle Time (in micro-seconds)	Bits per Micro-second
	DIGITAL EQUIPMENT PDP-8/S	8.0	1.50
	NCR 500	1000.0	0.012
	NCR 390	1200.0	0.010
	DATA MACHINES 610 Series	3000.0	0.004
13	CONTROL DATA 160G	3.0	4.33
14	WESTINGHOUSE PRODAC 50	4.5	3.12
16	ADVANCED SCIENTIFIC ADVANCE 6130	0.9	17.89
	SCIENTIFIC DATA SIGMA 2	0.9	17.89
	WESTINGHOUSE PRODAC 250	0.9	17.89
	HONEYWELL DDP-416	0.96	16.65
	HONEYWELL DDP-516	0.96	16.65
	BURROUGHS B3500	1.0	16.00
	CONTROL DATA 1700	1.1	14.50
	RCA SPECTRA 70/35	1.44	11.15
	RCA SPECTRA 70/45	1.44	11.15
	RCA SPECTRA 70/25	1.5	10.61
	EAI 640	1.65	9.70
	HONEYWELL DDP-116*	1.7	9.40
	SEL 810A	1.75	9.10
	DATA MACHINES 620	1.8	8.80
	BURROUGHS B2500	2.0	8.00
	IBM 1800	2.0	8.00
	IBM 360/40	2.5	6.40
	IBM 1130	3.6	4.45
	PACIFIC DATA 1020	2300.0	0.007
18	DIGITAL EQUIPMENT PDP-9	1.0	18.00
	HUGHES HM-4118	1.0	18.00
	DIGITAL EQUIPMENT PDP-7*	1.75	10.22
	HUGHES H-3118	1.8	10.00
	HUGHES H-3118M	1.8	10.00
	IBM 7700	2.0	9.00
	UNIVAC 418	2.0	9.00
	WESTINGHOUSE PRODAC 500	2.0	9.00
	BECKMAN 420*	3.2	5.61
	DIGITAL EQUIPMENT PDP-1*	5.0	3.60
	GENERAL ELECTRIC DATANET-30	7.0	2.57
	DIGITAL EQUIPMENT PDP-4*	8.0	2.25
20	HONEYWELL H22*	1.75	11.42
	GENERAL ELECTRIC 235	6.0	3.33
	HONEYWELL H21*	6.0	3.33
	GENERAL ELECTRIC 225*	18.0	1.11
	GENERAL ELECTRIC 412	20.0	1.00
	GENERAL ELECTRIC 205*	36.0	0.56
	GENERAL ELECTRIC 215*	36.0	0.56

Bits per Cycle	Central Processor	Cycle Time (in micro-seconds)	Bits per Micro-second
21	ADVANCED SCIENTIFIC 210	2.0	10.50
	ADVANCED SCIENTIFIC 2100	2.0	10.50
22	RAYTHEON 250	3070.0	0.007
24	RAYTHEON 520	1.0	24.00
	CONTROL DATA 3200*	1.25	19.20
	CONTROL DATA 3300	1.25	19.20
	CONTROL DATA 3500	1.3	18.45
	GENERAL ELECTRIC GE/PAC 4020	1.6	15.00
	GENERAL ELECTRIC GE/PAC 4060	1.7	14.10
	CONTROL DATA 3100	1.75	13.71
	HONEYWELL DDP-124	1.75	13.71
	HONEYWELL DDP-224	1.75	13.71
	SCIENTIFIC CONTROL 655	1.75	13.71
	SCIENTIFIC CONTROL 6700	1.75	13.71
	SCIENTIFIC DATA SDS 925, 930	1.75	13.71
	SCIENTIFIC DATA SDS 940	1.75	13.71
	SCIENTIFIC DATA SDS 9300	1.75	13.71
	SEL 840A, 840MP	1.75	13.71
	HUGHES H-3324	1.8	13.38
	ADVANCED SCIENTIFIC ADVANCE 6000 Series	1.9	12.69
	RAYTHEON 440*	2.0	12.00
	SCIENTIFIC CONTROL 660/2, 670/2	2.0	12.00
	GENERAL ELECTRIC 435	2.7	8.89
	GENERAL ELECTRIC GE/PAC 4050 II	3.4	7.05
	UNIVAC III*	4.0	6.00
	HONEYWELL DDP-24	5.0	4.80
	GENERAL ELECTRIC GE/PAC 4040	5.0	4.80
	SCIENTIFIC CONTROL 660/5	5.0	4.80
	GENERAL ELECTRIC 425	5.1	4.71
	GENERAL ELECTRIC GE/PAC 4050 I	5.1	4.71
	GENERAL ELECTRIC 415	5.8	4.15
	CONTROL DATA 924A*	6.4	3.75
	HONEYWELL H600*	8.0	3.00
	SCIENTIFIC DATA SDS 910, 920*	8.0	3.00
	HONEYWELL 1400	13.0	1.85
	RCA 501*	15.0	1.60
	HONEYWELL 400*	18.5	1.31
	GENERAL ELECTRIC 210*	32.0	0.75
25	DIGITAL ELECTRONICS DIGIAC 3080	1700.0	0.0015
30	UNIVAC 494	0.75	40.00
	ADAGE AMBILOG 200	2.0	15.00

\* System no longer marketed

Bits per Cycle	Central Processor	Cycle Time (in micro-seconds)	Bits per Micro-second
	UNIVAC 490*	4.8	6.25
	UNIVAC 491, 492*	4.8	6.25
32	HONEYWELL 200/4200	0.75	42.75
	RCA SPECTRA 70/55	0.84	38.00
	SCIENTIFIC DATA SIGMA 5	0.85	37.75
	SCIENTIFIC DATA SIGMA 7	0.85	37.75
	HONEYWELL 200/2200	1.0	32.00
	IBM 360/44	1.0	32.00
	HONEYWELL 200/1200	1.5	21.67
	PHILCO 102	1.5	21.67
	EAI 8400	1.75	18.33
	COLLINS C-8500	2.0	16.00
	HONEYWELL 200/200	2.0	16.00
	IBM 360/50	2.0	16.00
	HONEYWELL 200/120	3.0	10.67
	CONTROL DATA G-20*	6.0	5.33
	MONROE MONROBOT XI	12000.0	0.003
	CONTROL DATA RPC 4000*	17000.0	0.002
	CONTROL DATA LGP 21*	51000.0	0.0006
36	UNIVAC 1108 II	0.75	48.00
	DIGITAL EQUIPMENT PDP-10 Series	1.0	36.00
	IBM 7094 II*	1.4	25.07
	DIGITAL EQUIPMENT PDP-6	1.75	20.06
	IBM 7094 I*	2.0	18.00
	IBM 7090*	2.2	16.38
	IBM 7044*	2.5	14.40
	STANDARD COMPUTER IC 6000	4.0	9.00
	UNIVAC 1107*	4.0	9.00
	IBM 7040*	8.0	4.50
40	AUTONETICS RECOMP II*	9000.0	0.004
48	BURROUGHS B6500	0.6	80.00
	HONEYWELL 200/8200	0.75	64.00
	CONTROL DATA 3800	0.88	54.80
	PHILCO 2000/213	1.15	41.70
	CONTROL DATA 3600	1.4	34.40
	CONTROL DATA 3400*	1.5	32.00
	PHILCO 2000/212	1.5	32.00
	HONEYWELL 1800	2.0	24.00
	BURROUGHS B5500	4.0	12.00
	HONEYWELL 8000	6.0	8.00
	CONTROL DATA 1604A*	6.4	7.50
	PHILCO 2000/210	10.0	4.80
	PHILCO 2000/211	10.0	4.80

Bits per Cycle	Central Processor	Cycle Time (in micro-seconds)	Bits per Micro-second
50	IBM 7074*	4.0	12.50
	IBM 7070*	6.0	8.33
	IBM 7072*	6.0	8.33
60	CONTROL DATA 6800	0.25	240.00
	CONTROL DATA 6400	1.0	60.00
	CONTROL DATA 6600	1.0	60.00
	UNIVAC SS 80/90 I, II*	17.0	3.51
64	IBM 360/65, 67	0.75	88.33
	IBM 360/75	0.75	88.33
	IBM 360/90	0.75	88.33
72	GENERAL ELECTRIC 635, 645	1.0	72.00
	GENERAL ELECTRIC 625	2.0	36.00
192	BURROUGHS B8500	0.5	384.00

\* System no longer marketed

### BITS PER MICROSECOND

Bits per Micro- second	Central Processor	Cycle Time (in micro- seconds)	Bits per Cycle
384.00	BURROUGHS B8500	0.5	192
240.00	CONTROL DATA 6800	0.25	60
88.33	IBM 360/65, 67	0.75	64
88.33	IBM 360/75	0.75	64
88.33	IBM 360/90	0.75	64
80.00	BURROUGHS B6500	0.6	48
72.00	GENERAL ELECTRIC 635, 645	1.0	72
64.00	HONEYWELL 200/8200	0.75	48
60.00	CONTROL DATA 6400	1.0	60
60.00	CONTROL DATA 6600	1.0	60
54.80	CONTROL DATA 3800	0.88	48
48.00	UNIVAC 1108 II	0.75	36
42.75	HONEYWELL 200/4200	0.75	32
41.70	PHILCO 2000/213	1.15	48
40.00	UNIVAC 494	0.75	30
38.00	RCA SPECTRA 70/55	0.84	32
37.75	SCIENTIFIC DATA SIGMA 5	0.85	32
37.75	SCIENTIFIC DATA SIGMA 7	0.85	32
36.00	DIGITAL EQUIPMENT PDP-10 Series	1.0	36
36.00	GENERAL ELECTRIC 625	2.0	72
34.40	CONTROL DATA 3600	1.4	48
32.00	HONEYWELL 200/2200	1.0	32
32.00	IBM 360/44	1.0	32
32.00	PHILCO 2000/212	1.5	48
32.00	CONTROL DATA 3400*	1.5	48
25.07	IBM 7094 11*	1.4	36
24.00	HONEYWELL 1800	2.0	48
24.00	RAYTHEON 520	1.0	24
21.67	HONEYWELL 200/1200	1.5	32
21.67	PHILCO 102	1.5	32
20.06	DIGITAL EQUIPMENT PDP-6*	1.75	36
19.20	CONTROL DATA 3300*	1.25	24
19.20	CONTROL DATA 3200*	1.25	24
18.45	CONTROL DATA 3500	1.3	24
18.33	EAI 8400	1.75	32
18.00	DIGITAL EQUIPMENT PDP-9	1.0	18
18.00	HUGHES HM-4118	1.0	18
18.00	IBM 7094 1*	2.0	36
17.89	ADVANCED SCIENTIFIC ADVANCE 6130	0.9	16
17.89	SCIENTIFIC DATA SIGMA 2	0.9	16

Bits per Micro- second	Central Processor	Cycle Time (in micro- seconds)	Bits per Cycle
17.89	WESTINGHOUSE PRODAC 250	0.9	16
16.65	HONEYWELL DDP-416	0.96	16
16.65	HONEYWELL DDP-516	0.96	16
16.38	IBM 7090*	2.2	36
16.00	BURROUGHS B3500	1.0	16
16.00	COLLINS C-8500	2.0	32
16.00	HONEYWELL 200/200	2.0	32
16.00	IBM 360/50	2.0	32
15.00	ADAGE AMBILOG 200	2.0	30
15.00	GENERAL ELECTRIC GE/PAC 4020	1.6	24
15.00	NCR 315/RMC-501	0.8	12
15.00	NCR 315/RMC-502	0.8	12
14.50	CONTROL DATA 1700	1.1	16
14.40	IBM 7044*	2.5	36
14.10	GENERAL ELECTRIC GE/PAC 4060	1.7	24
13.71	CONTROL DATA 3100	1.75	24
13.71	HONEYWELL DDP-124	1.75	24
13.71	HONEYWELL DDP-224	1.75	24
13.71	SCIENTIFIC CONTROL 655	1.75	24
13.71	SCIENTIFIC CONTROL 6700	1.75	24
13.71	SCIENTIFIC DATA SDS 925, 930	1.75	24
13.71	SCIENTIFIC DATA SDS 940	1.75	24
13.71	SCIENTIFIC DATA SDS 9300	1.75	24
13.71	SEL 840A, 840MP	1.75	24
13.38	HUGHES H-3324	1.8	24
13.34	UNIVAC 9300	0.6	8
12.69	ADVANCED SCIENTIFIC ADVANCE 6000 Series	1.9	24
12.50	IBM 7074*	4.0	50
12.00	BURROUGHS B5500	4.0	48
12.00	RAYTHEON 440*	2.0	24
12.00	SCIENTIFIC CONTROL 660/2, 670/2	2.0	24
11.42	HONEYWELL H22*	1.75	20
11.15	RCA SPECTRA 70/35	1.44	16
11.15	RCA SPECTRA 70/45	1.44	16
10.67	HONEYWELL 200/120	3.0	32
10.61	RCA SPECTRA 70/25	1.5	16
10.50	ADVANCED SCIENTIFIC 210	2.0	21
10.50	ADVANCED SCIENTIFIC 2100	2.0	21
10.22	DIGITAL EQUIPMENT PDP-7*	1.75	18

\* System no longer marketed

Bits per Micro- second	Central Processor	Cycle Time (in micro- seconds)	Bits per Cycle
10.00	HUGHES H-3118	1.8	18
10.00	HUGHES H-3118M	1.8	18
9.70	EAI 640	1.65	16
9.40	HONEYWELL DDP-116*	1.7	16
9.10	SEL 810A	1.75	16
9.00	IBM 7700	2.0	18
9.00	STANDARD COMPUTER IC 6000	4.0	36
9.00	UNIVAC 418	2.0	18
9.00	UNIVAC 1107*	4.0	36
9.00	WESTINGHOUSE PRODAC 500	2.0	18
8.89	GENERAL ELECTRIC 435	2.7	24
8.80	DATA MACHINES 620	1.8	16
8.33	IBM 7070*	6.0	50
8.33	IBM 7072*	6.0	50
8.00	BURROUGHS B2500	2.0	16
8.00	DIGITAL EQUIPMENT LINC-8	1.5	12
8.00	DIGITAL EQUIPMENT PDP-8	1.5	12
8.00	HONEYWELL 800	6.0	48
8.00	IBM 1800	2.0	16
8.00	RCA 3301	1.5	12
7.50	CONTROL DATA 1604A*	6.4	48
7.05	GENERAL ELECTRIC GE/PAC 4050 II	3.4	24
7.00	SCIENTIFIC DATA SDS 92*	1.75	12
6.67	UNIVAC 9200	1.2	8
6.40	IBM 360/40	2.5	16
6.25	UNIVAC 490*	4.8	30
6.25	UNIVAC 491, 492*	4.8	30
6.00	SCIENTIFIC CONTROL 650	2.0	12
6.00	UNIVAC III*	4.0	24
5.61	BECKMAN 420*	3.2	18
5.33	IBM 360/30	1.5	8
5.33	CONTROL DATA G-20*	6.0	32
4.80	GENERAL ELECTRIC GE/PAC 4040	5.0	24
4.80	HONEYWELL DDP-24*	5.0	24
4.80	PHILCO 2000/210	10.0	48
4.80	PHILCO 2000/211	10.0	48
4.80	SCIENTIFIC CONTROL 660/5	5.0	24
4.71	GENERAL ELECTRIC 425	5.1	24
4.71	GENERAL ELECTRIC GE/PAC 4050 I	5.1	24
4.50	IBM 7040*	8.0	36

Bits per Micro- second	Central Processor	Cycle Time (in micro- seconds)	Bits per Cycle
4.45	IBM 1130	3.6	16
4.33	CONTROL DATA 160G	3.0	13
4.15	GENERAL ELECTRIC 715	5.8	24
4.00	RCA SPECTRA 70/15	2.0	8
3.75	CONTROL DATA 924A*	6.4	24
3.60	DIGITAL EQUIPMENT PDP-1*	5.0	18
3.51	UNIVAC SS 80/90 I, II*	17.0	60
3.33	GENERAL ELECTRIC 235	6.0	20
3.33	HONEYWELL H21*	6.0	20
3.12	WESTINGHOUSE PRODAC 50	4.5	14
3.00	SCIENTIFIC DATA SDS 910, 920*	8.0	24
3.00	HONEYWELL H600*	8.0	24
3.00	IBM 7080*	2.0	6
2.57	GENERAL ELECTRIC DATANET-30	7.0	18
2.50	RCA 301	4.8	12
2.50	IBM 7010*	2.4	6
2.25	DIGITAL EQUIPMENT PDP-4	8.0	18
2.00	CONTROL DATA 8092	4.0	8
2.00	NCR 315	6.0	12
2.00	NCR 315/100	6.0	12
2.00	DIGITAL EQUIPMENT PDP-5*	6.0	12
1.88	CONTROL DATA 160	6.4	12
1.88	CONTROL DATA 160A	6.4	12
1.88	CONTROL DATA 8090	6.4	12
1.85	HONEYWELL 1400	13.0	24
1.71	PHILCO 1000	3.5	6
1.60	RCA 501*	15.0	24
1.50	DIGITAL EQUIPMENT PDP-8/S	8.0	12
1.33	UNIVAC 1050 II*	4.5	6
1.33	IBM 1410*	4.5	6
1.31	HONEYWELL 400*	18.5	24
1.21	GENERAL ELECTRIC 115	6.5	8
1.21	UNIVAC 1004 II, III	6.5	8
1.21	UNIVAC 1005 II, III	6.5	8
1.11	IBM 360/20	7.2	8
1.11	GENERAL ELECTRIC 225*	18.0	20
1.00	BIT 480	8.0	8
1.00	BURROUGHS B263, B273, B283	6.0	6
1.00	BURROUGHS B300	6.0	6
1.00	GENERAL ELECTRIC 412	20.0	20

\* System no longer marketed

<i>Bits per Micro- second</i>	<i>Central Processor</i>	<i>Cycle Time (in micro- seconds)</i>	<i>Bits per Cycle</i>
1.00	UNIVAC 1004 I	8.0	8
1.00	UNIVAC 1005 I	8.0	8
1.00	IBM 1460*	6.0	6
0.75	GENERAL ELECTRIC 210*	32.0	24
0.60	BURROUGHS B160, B170, B180	10.0	6
0.60	BURROUGHS B250	10.0	6
0.60	BURROUGHS B260, B270, B280	10.0	6
0.60	IBM 1710 II	10.0	6
0.60	IBM 1620 II*	10.0	6
0.56	GENERAL ELECTRIC 205*	36.0	20
0.56	GENERAL ELECTRIC 215*	36.0	20
0.51	IBM 1401*	11.5	6
0.51	IBM 1440*	11.5	6
0.30	IBM 1710 I	20.0	6
0.30	IBM 1620 I*	20.0	6
0.012	NCR 500	1000.0	12
0.010	NCR 390	1200.0	12
0.007	PACIFIC DATA 1020	2300.0	16
0.007	RAYTHEON 250	3070.0	22
0.004	DATA MACHINES 610 Series	3000.0	12
0.004	AUTONETICS RECOMP II*	9000.0	40
0.003	MONROE MONROBOT XI	12000.0	32
0.002	CONTROL DATA RPC 4000*	17000.0	32
0.0015	DIGITAL ELECTRONICS DIGIAC 3080	17000.0	25
0.0006	CONTROL DATA LGP-21*	51000.0	32

\* System no longer marketed

## DIRECTORY OF MANUFACTURERS

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Boston, Massachusetts 02114

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graph Company  
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Fort Wayne, Indiana 46803

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Royal Typewriter Company, Inc.  
150 New Park Avenue  
Hartford, Connecticut 06101

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95 Canal Street  
Nashua, New Hampshire 03060

**SCIENTIFIC CONTROL**

Scientific Control Corporation  
14008 Distribution Way  
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**SCIENTIFIC DATA**

Scientific Data Systems  
1542 Fifteenth Street  
Santa Monica, California 90404

**SEL**

Systems Engineering Laboratories, Inc.  
Post Office Box 9148  
Fort Lauderdale, Florida 33310

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Post Office Box 1690  
Melbourne, Florida 32902

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Data Products Division  
Post Office Box 2449  
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English Electric-Leo-Marconi  
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Compagnie Bull General Electric  
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Paris 20

**CAE**

Compagnie Europeene d'Automatisme  
Electronique  
Rue Jean Jaures  
Les Clayes Sous Bois  
Seine et Oise

**SEA**

Societe d'Electronique et d'Automatisme  
138, Boule de Verdun  
Courbevoise, Seine

**SEREL**

Societe d'Exploitation et de  
Recherches Electroniques  
Aubergenville

**SETI**

Societe Europeene pour le  
Traitement de l'Information  
100 Route de Paris  
Massy, Seine et Oise

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Siemens and Halske AG  
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8 Munchen 25

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Bucklestrasse 3  
775 Konstanz

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Bad Hersfeld

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Olivetti-General Electric S.p.A.  
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2-8 Marunouchi  
Chiyoda-ku, Tokyo

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4 Bordewijkstraat  
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