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computers and automation



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THE COMPUTER DIRECTORY AND BUYERS' GUIDE, 1965

the June, 1965 issue of
"Computers and Automation"

Roster of Organizations in the Computer Field

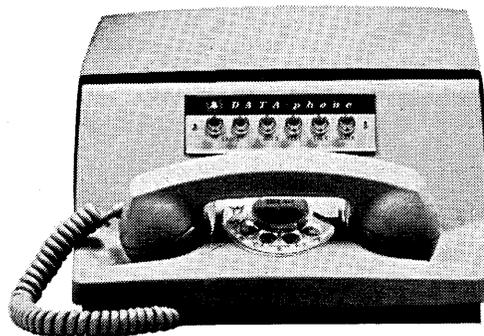
Buyers' Guide for the Computer Field: Products and
Services for Sale or Rent

Surveys of Computing and Consulting Services

Descriptions of Computers: Digital, Analog, Special Purpose

Over 800 Areas of Application of Computers and more besides

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Data communications services can add new scope and usefulness to your present EDP system, or to one you may be planning.

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Bell System

American Telephone and Telegraph
and Associated Companies

CALCOMP DIGITAL PLOTTING SYSTEMS ARE CONVERTIBLE

As a customer's plotting requirements become more complex, Calcomp 700 Systems can be converted upward from one model to another.

Today's Model 750 can become tomorrow's Model 780 by adding or substituting appropriate modules. In between are Models 760 and 770, bridging the gap between the basic and the ultimate.

COMPATIBLE WITH COMPUTING SYSTEMS

"Modular Design" of the 700 Systems makes them compatible with most major computing systems, including the IBM/360.

They also are compatible with the current industry trend toward in-the-field upgrading of data processing systems. As computing systems are upgraded to meet changing customer requirements, 700 Systems can be converted simultaneously, as required.

ECONOMICAL TO CONVERT

The cost of upgrading one model to another amounts to the difference in list price, plus the cost of a service call. Conversion can be accomplished in the field by Calcomp service representatives.

HOW PLOTTING SYSTEMS ARE USED

Calcomp plotting systems are used to present digital computer output as annotated charts, graphs, maps or drawings. The systems consist of magnetic tape units connected to Calcomp plotters.

Model 750 drives 500 series plotters and provides display and search features.

Model 760 also drives 500 series plotters, provides display and search, and employs tape format which reduces computer time required to prepare tape for plotting.

Model 770 works with high speed 700 series plotters and introduces variable step sizes (.005 and/or .01 inches) and ZIP MODE® capabilities which permit finer plotting resolution at advanced speeds. Model 780 provides all of the features of the 770 plus the ability to read higher density tape, and increases computer efficiency by packing more data per inch of tape.

For additional features of the "700 Systems," their advantages over other digital systems, and their capabilities — one compared with another — write "Marketing."



STANDARD OF THE PLOTTING INDUSTRY

CALIFORNIA COMPUTER PRODUCTS, INC. 305 Muller Avenue, Anaheim, California. (714) 774-9141

Circle No. 2 on Readers Service Card

Raytheon Computer's 520 System is the new price/performance leader in the industry.

It starts at \$94,000 and outruns competition.

These figures prove it.

OPERATION	DERIVED TIMES IN MICROSECONDS INCLUDING MEMORY CYCLE			
	RAYTHEON 520	SDS 930	CDC 3100	IBM 360/40
SCIENTIFIC/ENGINEERING FUNCTIONS				
FLOATING POINT ADD (24-BIT MANTISSA)	21-36*	81	NA	43**
FLOATING POINT ADD (39-BIT MANTISSA)	34-45*	NA	210	NA
FLOATING POINT MULTIPLY (24-BIT MANTISSA)	25-28*	59	NA	105**
FLOATING POINT MULTIPLY (39-BIT MANTISSA)	74-76*	NA	340	NA
REAL-TIME DATA SYSTEMS FUNCTIONS				
ADD REGISTER-TO-REGISTER	1	NA	1.8	7.5
CONVERT TO ENG. UNITS (12-BIT DATA) (ax + b)	15.5	19.25	21.5	81.26
NORMALIZATION ($\frac{X-Z}{F}$) \longrightarrow Y	20.5	31.5	22	216.26
CONVERT ANY 6-BIT CODE TO ANY OTHER CODE	2	8.75	5.25	17.5 + 6.25/CH.
BINARY TO BCD CONVERSION (4 SIX-BIT CHAR.)	36.5	112	77.5	<50
BCD TO BINARY CONVERSION	28	80.5	72	<45
DATA QUALITY CHECK (MATCH 24-BIT WORD AGAINST REFERENCE WORD AND COUNT UNMATCHED BITS)	23	69	108	108

*Times for subroutines in fast memory and calling sequence in main memory.

**Short format (24-bit mantissa and 7-bit hexadecimal exponent) with floating point option.

The Raytheon 520 System has a substantial speed advantage in scientific and data systems computing. It's equipped with a 200 nanosecond access, NDRO memory for table, sub-routine and executive program storage. Memory accesses are reduced by 1-microsecond register-to-register instructions using seven programmable registers. A variable length multiply can provide 8-bit execution in 2.5 μ secs, 12-bit in 3.5 μ secs and 24-bit in 6.5 μ secs. Input-output features include direct memory access and a standard controller for low-cost interface to A/D-D/A converters and other real-time data sources.

Automatic programming aids for the 520 System include the BOSS operating system; an advanced assembler with macro instructions oriented toward real-time systems, a simulator that will allow users of IBM 1620 computers to switch to the Raytheon 520 and process their machine language programs up to three times faster; and 520 FORTRAN, a fast and powerful compiler (benchmark comparisons invited.)

Write or call today for the whole story. It's in Data File C-108R. Raytheon Computer, 2700 S. Fairview Street, Santa Ana, California 92704



Circle No. 3 on Readers Service Card

computers and automation

*computers and data processors:
the design, applications,
and implications of
information processing systems.*

JUNE, 1965 Vol. 14, No. 6

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THE COMPUTER DIRECTORY and BUYERS' GUIDE

For 1965

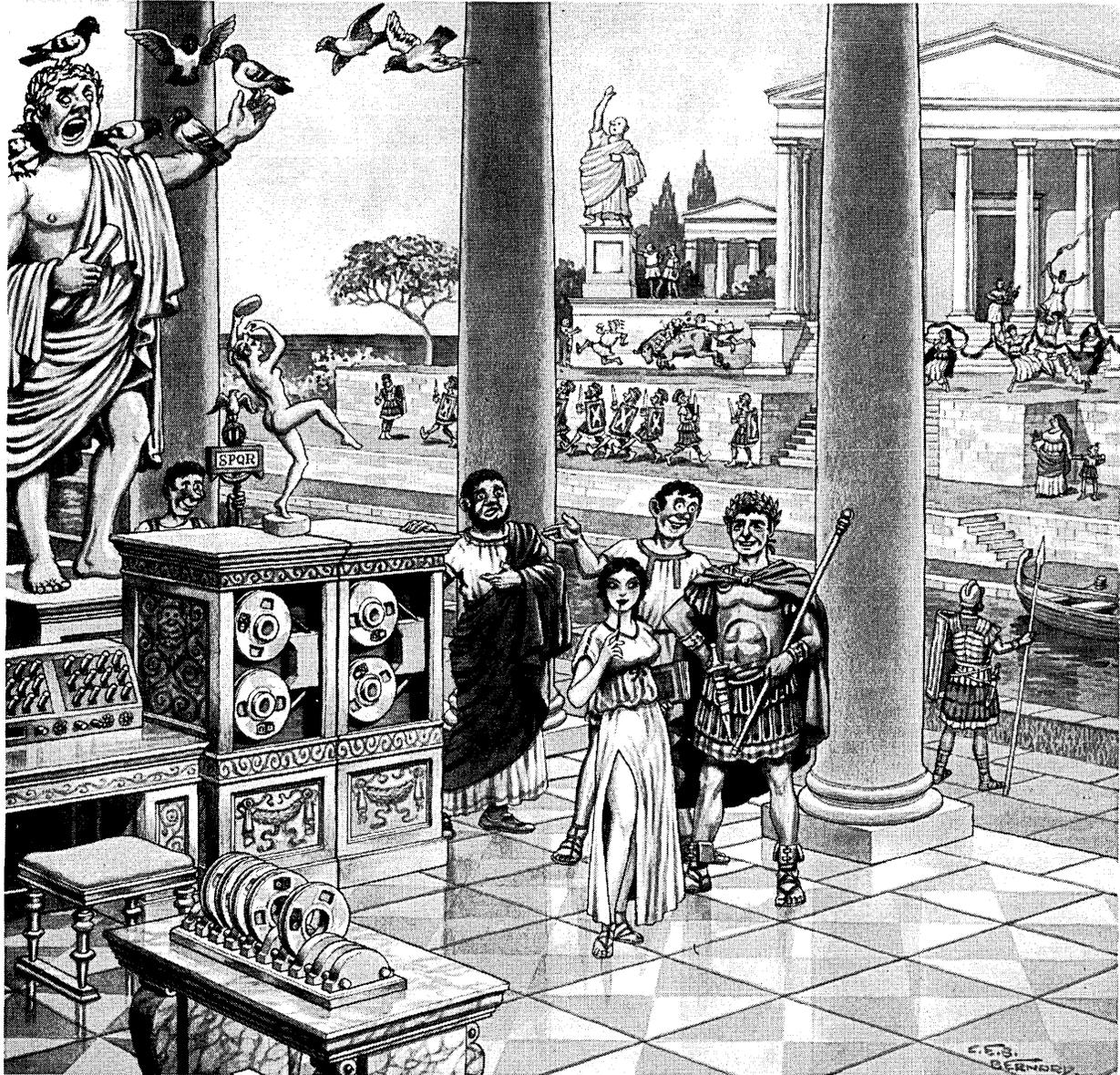
... commencing page 12



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COMPUTERS AND AUTOMATION, FOR JUNE, 1965



© Computron Inc. 1965

Pompey the Great, who considered himself a great innovator in the art of warfare, often boasted that he had introduced the use of pigeons as airborne messengers.

(Actually, he had borrowed the idea from a cashiered Chinese general named Ho Ming — which explains why they are known by that name and not as Pompey Pigeons.)

"You can have your new-fangled computers," he would scoff at Caesar. "Pigeons are the last word in modern communications!"

"Want to bet?" Caesar asked him one day.

"Name the stakes!" said Pompey.

Answered Caesar: "How about the Roman Empire?"

"You're on!" Pompey shouted.

And so the great struggle between the two took place, with Rome itself as the prize.

If you remember your Gibbon, you know what hap-

pened. Caesar's legions and his data processing equipment triumphed, and Pompey's boast came home to roost. After the crushing victory of the pro-processing forces over the pro-pigeon wing, Caesar dramatically celebrated his triumph by installing his computers directly at the base of Pompey's statue — as if to demonstrate to all the world which of the two had been right, and which had been for the birds.

This fascinating bit of tape history, incidentally, is presented for your edification by Computape, and the moral of the whole bit is crystal clear:

Computape is heavy-duty tape so carefully made that it delivers 556, or 800, or (if you want) 1,000 bits per inch — with no dropout.

Now — if Computape can write that kind of computer tape history — shouldn't you be using it?

*Reg. T.M. Computron Inc



COMPUTRON INC.

MEMBER OF THE **BASP** GROUP

122 CALVARY STREET, WALTHAM, MASSACHUSETTS

COMPUTAPE — product of the first company to manufacture magnetic tape for computers and instrumentation, exclusively.

Circle No. 4 on Readers Service Card

THE COMPUTER DIRECTORY AND BUYERS' GUIDE, 1965

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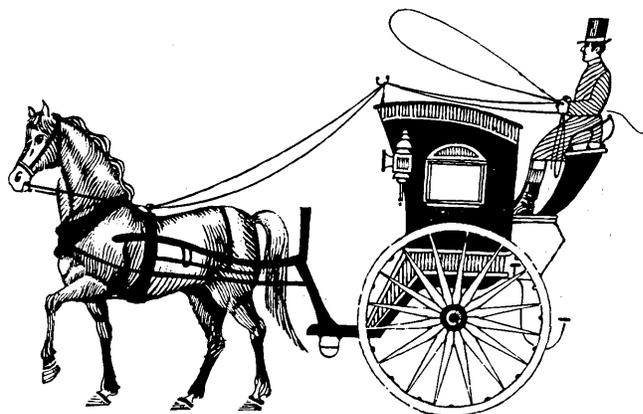
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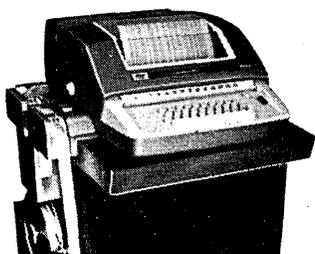
American Telephone & Telegraph Co., 195 Broadway,
New York 17, N. Y. / Page 2 / N. W. Ayer & Son
Berkeley Enterprises, Inc., 815 Washington St., New-
tonville, Mass. 02160 / Pages 95, 97, 98 / —
Burroughs Corp., 601 Second Boulevard, Detroit 32,
Mich. / Page 99 / Campbell-Ewald Co.
California Computer Products, Anaheim, Calif. / Page
3 / Advertisers Production Agency
Cheshire, Inc., 408 Washington Blvd., Mundelein, Ill.
60060 / Page 24 / Robert W. Deitz & Associates
Chrono-Log Corp., 2583 West Chester Pike, Broomall,
Pa. / Page 45 / Albano Advertising
CITCO, P. O. Box 66847, Houston, Texas 77006 / Page
54 / Gulf State Advertising Agency, Inc.
Computron Inc., 122 Calvary St., Waltham, Mass. /
Page 6 / Tech/Reps
Cycle Equipment Co., 17480 Shelburne Way, Los Gatos,
Calif. / Page 56 / Benét Hanau & Associates
Datamec Corporation, 345 Middlefield Rd., Mountain
View, Calif. / Page 24 / Ellis Walker
Dialight Corp., 60 Stewart Ave., Brooklyn, N. Y. 11237
/ Page 56 / H. J. Gold Co.
Fabri-Tek, Inc., 705 Keller Ave., So., Amery, Wisc.
/ Page 10 / Midland Associates, Inc.
General Electric Computer Dept., P. O. Drawer 270,

Phoenix, Ariz. / Pages 50, 51 / Foote, Cone & Belding
International Business Machines Corp., Data Processing
Div., White Plains, N. Y. / Pages 26, 27 / Mar-
steller, Inc.
Kleinschmidt, Div. of SCM Corp., Lake Cook Rd.,
Deerfield, Ill. / Page 8 / Batten, Barton, Durstine
& Osborn, Inc.
MAC Panel Co., P. O. Box 5027, High Point, N. C. /
Page 100 / Lavidge, Davis & Newman, Inc.
Memorex Corporation, 1180 Shulman Ave., Santa Clara,
Calif. Page 2A / Hal Lawrence, Inc.
National Cash Register Co., Main & K Sts., Dayton 9,
Ohio / Page 57 / McCann-Erickson, Inc.
L. A. Pearl Co., 801 Second Ave., New York 17, N. Y.
/ Page 86 / —
Pergamon Press, Inc., 44-01 21st St., Long Island
City, N. Y. 11101 / Page 43 / Promotion Consultants,
Inc.
Photon, Inc., Wilmington, Mass. 01887 / Page 25 /
Darrell Prutzman Associates
Raytheon Computer, 2700 S. Fairview St., Santa Ana,
Calif. 92704 / Page 4 / Jay Chiat & Associates
Systemat, Silver Spring, Md. / Page 45 / Spectra Assoc.
Wolf Research and Development Corp., P. O. Box
36 AB, Baker Ave., W. Concord, Mass. 01781 /
Page 96 / de Garmo-Boston, Inc.



IS YOUR TAPE CONVERSION STILL WORKING AT HORSE AND BUGGY SPEEDS?

THINK AHEAD...THE NEW KLEINSCHMIDT 321 ADS CONVERTS TAPE TO HARD COPY AT 400 WORDS PER MINUTE!...TODAY



Think of tape conversion four times faster than you may be getting now. Think of less tape backup. Think of the Kleinschmidt™ 321™ ADS. Whether it's used "on line" or "off line," the 321 ADS gives you complete and reliable facilities for tape preparation, tape duplication and hard-copy print-out. For further information on the

efficiency of the 321 ADS and other Kleinschmidt Electronic Data Communications equipment, write: KLEINSCHMIDT, Division of SCM Corporation, Lake Cook Road, Deerfield, Illinois.

THINK AHEAD
... THINK SCM

SCM KLEINSCHMIDT
DIVISION OF SCM CORPORATION

Circle No. 6 on Readers Service Card

Looking 20 Years Ahead: The Computer Directory and Buyers' Guide

In 1955 the first Computer Directory and Buyers' Guide was published, by "Computers and Automation", as its regular June issue. Now, ten years later, we publish the eleventh annual issue. What will the Computer Directory and Buyers' Guide look like 20 years from now?

A number of tendencies are now plainly visible in the computer field. Among these are:

- 1) To make computers successfully and competitively, the manufacturing organization has to master the fabrication of miniature and microminiature electronic circuits, and also achieve very high standards of reliability.
- 2) To market computers successfully, the organization has to be able to supply maintenance and software services over wide geographic areas.

(These two conditions imply that over the long run only very big organizations with large amounts of capital can compete successfully.)

- 3) A large demand for computing services will be readily satisfied by small entrepreneurs renting excess time on nearby computing facilities and doing work under contract for nearby businesses.
- 4) Education in the field of computers and data processing will become very widespread and will be found in almost every college and university.
- 5) The number of ways in which computers will be used and applied will approach the number of ways in which books are used and applied — reaching almost everywhere.
- 6) The putting together of small computing modules to act as small computers for special purposes (like reading gas meters) is likely to become very widespread.

Taking these into account, it seems to me that we can make some reasonable though rough predictions. These are incorporated in the following table:

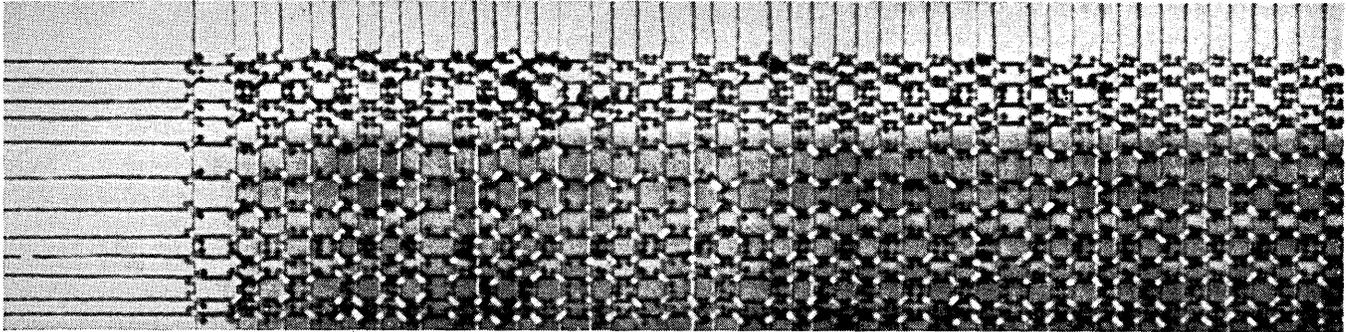
<u>CATEGORY</u>	<u>NUMBER</u>
1. <u>Manufacturers:</u>	
Digital Computers	10
Analog Computers and Hybrid Computers	20
Peripheral and Auxiliary Equipment	50
2. <u>Computer Models:</u>	
A. <u>General Purpose</u>	
Digital	200
Analog	50
Hybrid	50
B. <u>Special Purpose</u>	1000
3. <u>Service Organizations:</u>	
Computing	5000
Consulting	1000
Software Suppliers	1000
4. <u>Associations:</u>	
Professional (national, regional, and local chapters)	300
User Groups	50
5. <u>Miscellaneous:</u>	
College and University Computer Centers	in almost every college
Applications	almost unlimited

Your editor hopes that he will be on deck 20 years from now at age 76 to see if these predictions are anywhere near the actual case.

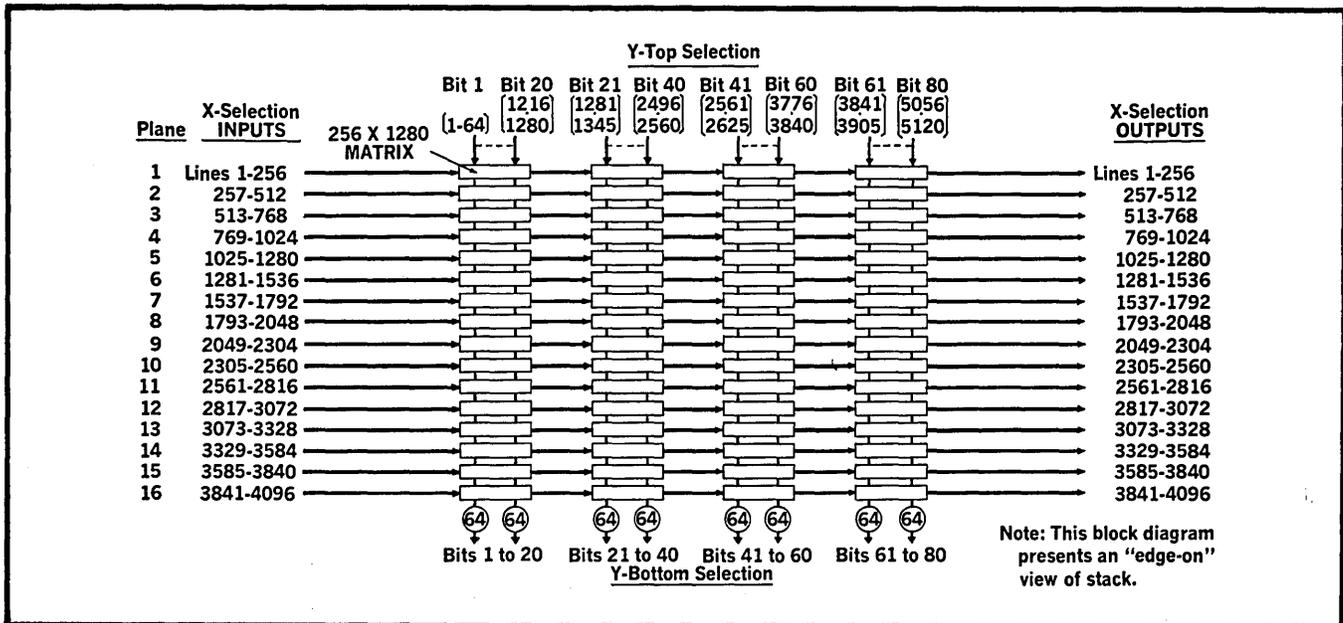
Edmund C. Berkeley

EDITOR

A 20-million-bit mass core memory can be economical, reliable, and fast! Here's how:



Coincident-current versatility with only two wires!
(Cross-section of Fabri-Tek's simple and reliable orthogonal mass core memory plane.)



Here is the road-map to reliability! (Core-selection block diagram for Fabri-Tek's mass core memory stack.)

In extremely large capacity core memory systems such as Fabri-Tek's new Series MT mass core memory, the stack and core selection circuit costs become the major system cost consideration. The illustrations above show the key factors which make the Series MT a truly practical mass core memory.

A simple and reliable orthogonal array uses only X and Y wires to reduce the stack stringing cost and to reduce X and Y drive line soldered connections by a ratio of more than 4:1.

The core-selection block diagram shows how a 20-million-bit array is divided into 4,096 X lines and 5,120 Y lines. A total of 327,680 cores is wired into each frame.

If conventional 128 X 128 matrices were used, a total of 1,280 frames would be required instead of 64. This would mean a total of 655,360 X and Y-line to frame connections compared to the 196,608 connections used in this Fabri-Tek memory.

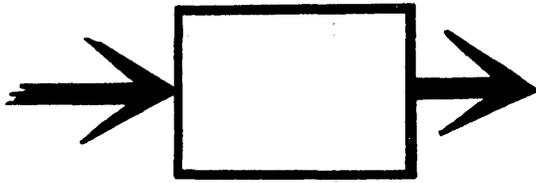
Special Fabri-Tek circuit techniques, using all-silicon semi-conductors, give reliable memory speeds of 4 to 8 microseconds. Interface is compatible with discrete or integrated circuitry.

If you'd like more interesting facts about the Fabri-Tek mass core memory, write, call, or wire Fabri-Tek Incorporated, Amery, Wisconsin. Phone: 715-268-7155. TWX: 510-376-1710.



FABRI-TEK
INCORPORATED

Circle No. 7 on Readers Service Card



A Spectrum of the Computer Field

The publication of the Computer Directory and Buyers' Guide, the June issue of "Computers and Automation," always invites reflection on the many organizations providing services in the computer field. There are probably some 2,500 organizations, with a range of employees from 2 to 150,000, serving the field in some capacity or other. A product/service classification scheme may be proposed to attempt to reduce the confusion and embrace all computer-related services in one coherent spectrum.

Hardware manufacturers are generally easy to classify by examining their products. Typically, today, we have manufacturers supplying:

- commercial computers — e.g., IBM, Honeywell, RCA, GE, NCR, Burroughs, Univac.
- scientific computers — e.g., Philco, Control Data, and most of the above.
- special purpose computers — e.g., Scientific Data Systems, Computer Control Company, Digital Equipment Corp., Bunker-Ramo, Collins Radio, Raytheon.
- analog computers — e.g., Electronic Associates, Inc., Beckman, Stromberg-Carlson.
- hybrid computers — e.g., EAI, Beckman, Astrodata, Adage, Inc.

Similarly, we can define other classes. Peripheral suppliers might include suppliers of:

- printers — e.g., Anelex, Shepard Laboratories, Mitre, Clary, Kleinschmidt.
- tapes and other auxiliary storage components — e.g., Ampex, Potter Instrument, Bryant, CalComp.
- input preparation equipment — e.g., SCM Corp., UGC, Singer-Friden, Farrington, Recognition Equipment.

Communications companies can be divided into suppliers of:

- terminals — e.g., Teletype, Digitronics
- lines — e.g., A.T.&T., Western Union, Comsat.

Supplies companies include purveyors of:

- tapes — e.g., the major computer manufacturers, Audio Devices, Memorex, Computron, Ampex.

- cards — e.g., Jersey Tab Co., Formscard.
- forms — e.g., Standard Register, Uarco, Moore, Ennis Business Forms.
- supply storage devices — e.g., Tab Products, Ray Meyers, Wrightline, Mac Panel.

The largest area in terms of number of organizations included is the area of computer services — the thousands of organizations who, in one way or another, supply "personnel services," i.e., the use of personnel. This area is numerically largest, perhaps, because of low capital requirements. It is also expected to be a billion dollar segment of the computer industry in the next few years.

The services provided by these organizations can be generally arranged along a spectrum: its characteristic is not wavelength as in the color spectrum, but "cost per hour." (See the accompanying chart.) As a list, the services by personnel category might appear as follows (cost per hour represents currently available rates):

PERSONNEL CLASSIFICATION	COST PER HOUR
1. Keypunch operator (obtained outside U.S.)	\$2.00-\$2.50
2. Keypunch operator (within U.S.)	\$3.50-\$3.75
3. Punched card machine operator	\$4.00-\$4.50
4. Computer console operator	\$5.00-\$7.00
5. Programmer	\$6.00-\$10.00
6. Senior programmer	\$8.00-\$15.00
7. Systems analyst	\$10.00-\$20.00
8. Technical consultant	\$15.00-\$25.00
9. Mathematician/Operations research analyst	\$20.00-\$25.00
10. Management consultant	\$25.00-\$37.50
11. Principal/Partner	\$40.00-\$50.00

The types of organizations providing these services are not classified so easily. Many organizations undertake to supply some or all of these services; others supply these services only

(Please turn to page 80)

ROSTER OF ORGANIZATIONS IN THE COMPUTER FIELD

(Cumulative, information as of April 15, 1965)

The purpose of this Roster is to report organizations in the computer field: organizations making or developing computing machinery or data-processing machinery, and organizations supplying significant components used in the computer field if related to the field (for example, ferrite cores would be such a component).

For listings of organizations supplying services in the computer field, please see the following surveys and rosters, elsewhere in this Directory: Roster of Electronic Computing and Data Processing Services; Survey of Consulting Services; Survey of Software Suppliers; and Roster of School, College, and University Computer Centers.

Entries. Each Roster entry if complete contains: Name of the organization, its address / Telephone number / Description of its main activities, main products in the field, any comments / Size (expressed in number of employees) / Year established. In cases where we do not have complete information, we put down what we have.

Accuracy. We have tried to make each entry accurate to the extent of information in our possession. We shall be grateful for any more information or additions or corrections that anyone is kind enough to send us. Although we have tried to be accurate and complete, we assume no liability for any statements expressed or implied.

Abbreviations

The key to the abbreviations follows:

S — Size (number of employees)

E — Established (year of establishment)

*C This organization has kindly furnished us with information expressly for the purpose of the Roster and therefore our report is likely to be more complete and accurate than otherwise might be the case. (C for Checking) / 65: information furnished in 1965 / 64: information furnished in 1964 / etc.

Organization Entry Form

The form to be completed for an entry in the Roster of Organization follows:

1. Your organization's name? _____

2. Street address? _____

3. Telephone number: area code? _____

4. City, state, zip code? _____

5. Types of computers, data processors, computer components, data processing supplies or services, etc., that you produce or offer? _____

6. Approximate number of your employees? _____

7. Year organization was established? _____

8. Listings for three of your executives:

President: _____

Public Relations Director: _____

Advertising Manager: _____

This data supplied by _____

Title _____ Date _____

Roster of Organizations

ROSTER

A

- Abacus Inc., 1718 21st St., Santa Monica, Calif. / Upton 0-9422; EXbrook 3-9777 / *C 64
Digital modules, programmable digital general purpose buffers, stored program general purpose digital computers, custom systems / S 40 / E 1957
- Abacus Information Management Co., P.O. Box 399, New York, N.Y. 10008 / — / *C 65
Technical and managerial guidance for civilian and military systems. Functions served include appraisal, audit, professional criticism, review, crystallization of procedures and standards, and financial valuation / S 2 / E 1962
- ABL Inc., P.O. Box 11193, Palo Alto, Calif. / — / *C 65
Engineering and consulting service in the processing of analog, audio, digital and optical signals / S 2 / E 1961
- Accurate Electronics Corp., 169 S. Abbe Rd., P.O. Box 935A, Elyria, Ohio 44036 / 365-1211 / *C 64
Plug-in assemblies for computer uses; terminal boards; plug boards; terminals; connectors; panels / S 25 / E 1953
- The Acratod Co., 2708 Bagby (P.O. Box 66847), Houston, Texas 77006 / 713-Jackson 4-3111 / *C 65
Punched card and tape handling equipment and supplies, including control panels, wires, magnetic tape, ribbons, binders, etc. Used D.P. machines / S 10 / E 1939
- AC Spark Plug Div. General Motors Corp., 7929 S. Howell Ave., Milwaukee, Wis. 53201 / 414-762-7000 / *C 65
Design, development and production of general purpose and special purpose digital computers for space and airborne systems and other applications / S 7600 / E 1948
- Adage, Inc., 292 Main St., Cambridge 42, Mass. / UN 4-6620 / *C 64
Analog, digital, hybrid, stored-program signal processor: analog-to-digital and digital-to-analog converters; links; multiplexers / S 160 / E 1957
- ADB Institutet (Scandinavian Automatic Data Processing Institute), Chalmers University of Technology, Gibraltargatan 5, Gothenburg S, Sweden / 031-200410 / *C 64
University training in automatic data processing. Consulting, programming, coding, and running problems on Alwac III E (Wegematic 1000) and SAAB D27 computers for industries in Scandinavia / S 25 / E 1957
- Adcom Corp., 20945 Plummer St., Chatsworth, Calif. / 213-341-4635 / *C 65
Design and manufacture of computer data acquisition systems employing high-speed A to D converters, D to A converters, digital multiplexers, analog memories, and hybrid interfaces / S 58 / E 1964
- Addo-X, Inc., ADP Div., 270 Park Ave., New York, N.Y. 10017 / 212-YU 6-0620 / *C 65
Addo-X 10-key shuttle carriage adding and book-keeping machines linked to Addo-X program controlled tape punches and IBM card punches. Addo-X tape reader / S ? / E 1947
- Advance Data Systems Corp., 2037 Granville Ave., Los Angeles 25, Calif. / 478-0245 / *C 64
Systems analysis / S 40 / E 1961
- Advanced Circuitry Div., Litton Industries, 4811 Kearney St., Springfield, Mo. / 417-UN 9-1806 / *C 65
Custom printed circuits, multiplanar interconnects, weldable circuits and packaged assemblies / S 100 / E 1943
- Advanced Scientific Instruments, Div. of EMR, 8001 Bloomington Freeway, Minneapolis, Minn. 55420 / 612-888-9581 / *C 65
Digital computers / S 200 / E 1961
- Aero Geo Astro Div., Keltec Industries, Inc., Edsall and Lincoln Rds., Alexandria, Va. 22314 / 703-354-2000 / *C 65
Special purpose computers, radar programmers, coordinate digital converters, data loggers, data acquisition systems of all types for industry and government, special computer interface products / S 700 / E 1958
- Aetna Products Co., Inc., 11 Commercial St., P.O. Box 438, Hicksville, N.Y. / 516-WE 1-3120 / *C 65
Inked ribbons for computers, data processing, etc. / S ? / E 1941
- Aircraft Armaments, Inc., York Rd., Cockeysville, Md., 21030 / 301-666-1400 / *C 65
Special purpose computers, simulators, training systems, telemetering systems, test equipment, instrumentation, and special purpose devices for missiles, space vehicles and other military weapons systems, air traffic control, etc., based on custom specifications / S 1000 / E 1950
- Airflyte Electronics Co., 535 Ave. A, Bayonne, N.J. / 201-HE 6-2230 / *C 64
Analog-digital converters, commutating devices, programming switches / S 70 / E 1951
- Airpax Electronics, Inc., 6601 N.W. 19th St., Fort Lauderdale, Fla. 33313; Woods Rd., Cambridge, Md. / Ft. Lauderdale, Fla., 305-587-1100 / *C 65
Differential, analog computer type magnetic amplifiers; complete line of servo, data logging and control systems; electronic tachometers, choppers, circuit breakers, transformers and telemetry equipment / S 400 / E 1957
- Aladdin Electronics, 703 Murfreesboro Rd., Nashville, Tenn. 37210 / 615-242-3411 / *C 65
Pulse and wide-band transformers and other magnetic core components / S 150 / E 1929
- Alden Products Co., 1140 N. Main St., Brockton, Mass. / Juniper 3-0160 / *C 64
Cable assemblies, metal chassis, patch cords, coil winding bobbins, breadboard kits, computer packaged circuits, connectors, magnetic cores, fastening devices, jacks, magnetic storage, lights, indicator systems; components to mount, package, connect, and monitor electronic circuitry / S 300 / E 1930
- All American Engineering Co., Lancaster Ave. & Centre Rd., Wilmington 99, Del. / 994-0951 / *C 64
Equipment performance recorders, plethysmograph, medical and electrical instruments / S 425 / E 1952
- The William C. Allen Corp., 1875 Connecticut Ave., N.W., Washington, D.C. 20009 / — / *C 65
Management consultants / S ? / E ?
- Allied/Egry Business Systems, Inc., 429 E. Monument Ave., Dayton, Ohio, 45402 / 223-3133 / *C 65
Data processing forms / S 1500 / E 1893
- American Business Systems, Inc., 2929 B St., Philadelphia 34, Pa. / GA 6-7700 / *C 64
Business forms, data processing cards (regular and special) / S 200 / E 1946
- American Data Services, Inc., 0110 S.W. Bancroft St., Portland, Ore. 07201 / 503-226-6851 / *C 65
System design, programming, data processing and machine services provided business, governmental and scientific groups. Computers used are Burroughs 205 and IBM 1401 / S 20 / E 1959
- American Hydromath Co., 24-20 Jackson Ave., Long Island City, N.Y. 11101 / 212-Ex 2-4242 / *C 65
Mechanical and electro-mechanical analog computer: special purpose slide rules, quality control computer, mechanical nomographs / S 10 / E 1940
- American Lava Corp., Manufacturers Rd., Chattanooga 5, Tenn. / 265-3411 / *C 64
Custom manufacturing services including technical ceramics and metal-ceramic combinations / S over 1000 / E 1902
- American Telephone & Telegraph Co. and Associated Bell System Telephone Companies, (Hq) 195 Broadway, New York 7, N.Y. / — / *C 63
Complete communications services for data processing systems / S 735,000 / E ?
- AMP Inc., Eisenhower Blvd., Harrisburg, Pa. / 564-0101 / *C 64
Solderless terminals, connectors, patchcord programming systems and pinboards, computer power supplies / S 4500 / E 1941
- Ampex Corp., Computer Products Div., 9937 Jefferson Blvd., Culver City, Calif. 90230 / 213-837-5321 / *C 65
Core memories, tape handling systems / S 900 (Div.) / E 1960 (Div.)
- Amphenol-Borg Electronics Corp., 2801 S. 25th Ave., Broadview, Ill. 60155 / 312-261-2000 / *C 65
Connectors of all types, coax cable, multi-conductor cable, RF connectors, coax switches, precision potentiometers, integrated circuits, harness assemblies / S over 500 / E 1958
- Amplifier Corp. of America, 390 Broadway, New York 13, N.Y. / Worth 6-2929 / *C 64
Tape recorders, tape decks, tape cartridges, transistorized electronic modules and plug-in boards, transistorized power supplies, transistorized amplifiers; flutter meters, demagnetizers; instruments to order / S 25 (affiliate of Keystone Camera Co., Inc.; additional personnel and facilities readily available) / E 1936
- AmTron Inc., 14631 S. Waverly Ave., Midlothian, Ill. / 264-5835 / *C 65
Analog and digital electronic controls for process application in industrial plants / S 50 / E 1959
- Amulex Electronics, Inc., 467 Connecticut Ave., South Norwalk, Conn. / 203-866-8020 / *C 64
Time code generators, automatic component testers, custom test equipment / S 12 / E 1962
- Andersen Laboratories, Inc., 501 New Park Ave., W. Hartford, Conn. / 203-236-1281 / *C 65
Delay line memories / S 150 / E 1949
- Anelux Corp., 150 Causeway St., Boston, Mass. 02114 / 617-742-4585 / *C 65
High and slow speed printer systems, magnetic tape print station, Series 5 Printers, Multiple Tape Lister, Franklin Printers, airborne printer. Special purpose and militarized printer systems, communications printer, random access disc storage and other peripheral EDP equipment. Anelux printer training school / S 1000 / E 1952
- API Instruments Co., 7100 Wilson Mills Rd., Chesterland, Ohio / HA 3-3131 / *C 65
Contact meter relays, panel meters, "packaged controls," special electronic controls, electrically actuated controls, automatic control equipment / S 300 / E 1945
- Applied Control Corp., 293 Fairview Ave., Cedar Grove, N.J. 07009 / 201-239-3851 / *C 65
Test equipment, digital, in circuit, non loading, visual indication of computer component contents, bench tester and panel mounting versions / S 10 / E 1958
- Applied Data Research, Inc., 759 State Rd., Princeton, N.J. 08540 / 609-921-8550 / *C 64
Research, development, consulting programming on all digital computing systems / S 32 / E 1959
- Applied Dynamics, Inc., 2275 Platt Rd., Ann Arbor, Mich. / 313-662-4493 / *C 64
General and special purpose analog computers / S 185 / E 1957
- Applied Magnetics Corp., 749 Ward Dr., Santa Barbara, Calif. 93105 / 805-967-0123 / *C 65
Custom designed precision magnetic recording heads for computer and instrumentation applications / S 175 / E 1957
- Approved Business Machines Co., Inc., 16 Hudson St., New York 13, N.Y. / Walker 5-9813 / *C 65
Used business machines, including punch card machines; scanners; adding machines; analog, digital and special purpose computers; data processing machinery; forms handling equipment / S ? / E ?
- Argonaut Associates, Inc., P.O. Box K, Beaverton, Ore. / 503-CY 2-3149 / *C 65
Analog computers, function generators / S 17 / E 1959
- Aries Corp., 4901 W. 77th St., Minneapolis, Minn. 55424 / 612-866-3321 / branch office: Westgate Research Park, McClean, Va. / *C 65
System engineering, system analyses and programming services / S 55 / E 1962
- Arma Div., American Bosch Arma Corp., Roosevelt Field, Garden City, L.I., N.Y. 11532 / 516-PI 6-2000 / *C 64
Aerospace digital computers, microminiature logic digital computers, NDRM memory systems, shipboard miniature digital computer systems, velocity comparators, display and data management systems, logic keyboards / S 1665 / E 1918
- Arkay Engineering, Inc., 11800 N. Olympic Blvd., Los Angeles 64, Calif. / Granite 9-8028 / *C 65
Engineering and consulting services. Experienced in designing and shipping hardware. Semiconductor circuits, data systems, automatic checkout and control, complete computers, telemetry, instruments, value analysis, proposals / S 12 / E 1958
- The Arnold Engineering Co., P.O. Box G, Marengo, Ill. 60152 / 312-568-7251 / *C 65
Magnetic materials / S 750 / E 1936
- The Artronic Instrument Company, 11232 Triangle Lane, Silver Spring, Md. 20902 / 301-949-1131 / *C 65
Delay lines, encapsulated circuit modules, magnetic core memory devices, pulse transformers, shift registers / S ? / E 1959
- Arvey Corp., 3500 N. Kimball Ave., Chicago, Ill. 60618 / 312-463-1400 / *C 65
Laminated polyester tape; metalized or paper and film combinations / S 300 / E 1905
- Assembly Products, Inc. — name changed to API Instruments Co., which see
Associated Sales Analysts, 220 West 42nd St., New York 36, N.Y. / CH 4-7073 / *C 64
Punched card and magnetic tape data processing / S 200 / E 1952
- Astrodata Inc., 240 E. Palais Rd., Anaheim, Calif. / 714-772-1000 / *C 65
Design and fabrication of data acquisition systems, signal conditioning systems, telemetry systems, analog/hybrid computer systems, range timing equipment and associated instruments / S 877 / E 1961
- Audio Devices, Inc., 235 East 42nd St., New York City, N.Y. 10017 / 212-MU 7-0800 / *C 65
Magnetic recording tape for computers / S 400 / E 1937
- Audio Instrument Co., Inc., 220 E. 23rd St., New York, N.Y. 10010 / 212-MU 9-5518 / *C 65
Analog time delay devices; logarithmic converters; autocorrelation recorder / S 9 / E 1949
- Auerbach Corp., 1634 Arch St., Philadelphia, Pa. 19103 / 215-LO 3-7737 / *C 65
Consulting services in system engineering, computer programming, business information systems, product and market planning, programmed teaching, computer analysis (Auerbach standard EDP reports) / S 175 / E 1957
- Autographic Business Forms, Inc., 45 E. Wesley St., S. Hackensack, N.J. 07066 / 201-489-6500 / *C 65
Continuous business forms / S 400 / E 1893
- Automated Systems International, 10040 Freeland Ave., Detroit, Mich. 48227 / 933-9701 / *C 65
Automated management information systems for automobile dealers and automotive trade / S 90 / E 1960
- Automation Dynamics Corp., 35 Industrial Parkway, Northvale, N.J. 07647 / 201-768-9200 / *C 65
Support test equipment / S 25 / E 1957
- Automation Engineers, 344 W. State St., Trenton 8, N.J. / 695-2628 / *C 65
Consultants in automatic control machinery, automatic materials handling equipment, information handling equipment, and random card file equipment. Designers of specialized data processing equipment, including office machinery coupling mechanisms. Analysis of automation economics; supervision of installations / S 20 / E 1942
- Automation Institute of America, Inc., 821 Market St., Suite 437, San Francisco, Calif. 94103 / 415-EX 2-6694 / *C 65
EDP training. Card punch, unit record equipment, computer programming, systems and procedures / S over 400 / E 1956
- Automation Sciences, Inc., 275 Madison Ave., New York, N.Y. 10016 / 212-686-7122 / *C 65
Service company: systems analysis, computer

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- programming, engineering and feasibility studies for computer, simulation, data reduction, command control and special data processing systems / S 60 / E 1963
- Autonetics Div., North American Aviation, Inc., 3370 Miraloma Ave., Anaheim, Calif. 92803 / 714-772-8111 / *C 65**
General purpose digital computers, special purpose digital computers, digital differential analyzers, special purpose analog computers, modular command and control systems, airborne/spaceborne recorders/reproducers / S 24,000 / E 1928 (parent co.)
- Auto-Trol Corp., 14500 W. 92 Ave., Arvada, Colo. / 303-421-3726 / *C 64**
Scalers for photogrammetry and mapping; high speed serial printers, digital plotters, card readers / S ? / E 1957
- Avionic Division/John Oster Mfg. Co., 1 Main St., Racine, Wisc. / 414-636-4445 / *C 64**
Resolvers, synchros, and servomechanisms / S 550 / E 1924 (company)
- Avtron Manufacturing, Inc., 10409 Meech Ave., Cleveland, Ohio 44105/216-641-8310 / *C 65**
Design, development and manufacture of special and general digital indication/control equipment; solid-state power computers and multipliers; semi-automatic test equipment / S 75 / E 1954
- B**
- Babcock Electronics Corp., 1640 Monrovia Ave., Costa Mesa, Calif. / Liberty 8-0011 / *C 65**
Command control and guidance systems including receivers, transmitters, encoders, decoders, signal generators and support equipment / S 1000 / E 1947
- Bailey Meter Co., 29801 Euclid Ave., Wickliffe, Ohio 44092 / 216-943-5500 / *C 65**
Automatic control equipment, special purpose computers, data processing equipment, analog and digital information systems / S 2000 / E 1916
- Baldwin Electronics, Inc., 1101 McAlmont, Little Rock, Ark. / 501-FR 5-7351 / *C 64**
Photoelectric analog to digital shaft-position encoders / S 215 / E 1953
- Baltimore Business Forms, Inc., 3132 Frederick Ave., Baltimore, Md. 21229 / 301-233-8000 / *C 65**
Continuous forms, continuous envelopes, stock tabulating forms, datacard sets (tabulating cards in sets) / S 600 / E 1916
- Basic Systems Inc., 880 Third Ave., New York, N.Y. 10022 / 212-752-4600 / *C 65**
Consulting services to design custom training courses to meet client training requirements and the design of self-instructional texts for individual purchasers / S 125 / E 1960
- Battelle Memorial Institute, 505 King Ave., Columbus 1, Ohio / — / *C 64**
Digital and analog research in systems engineering, servomechanism, automatic control machinery, and automatic materials handling machinery / S 2300 / E 1929
- Beckman Instruments, Inc., 2500 Harbor Blvd., Fullerton, Calif. 92634 / — / *C 64**
Analog, hybrid integrated and real-time digital computers; high- and medium-speed data acquisition and processing systems; communications and telemetry deconvolution equipment; analog and digital data systems and components / S ? / E ?
- Beckman & Whitley, Inc., 993 E. San Carlos Ave., San Carlos, Calif. / — / *C 64**
Photo optical systems / S ? / E ?
- Beemak Plastics, 7424 Santa Monica Blvd., Los Angeles, Calif. 90046 / 213-876-1770 / *C 65**
Plastic holders for punched cards / S 25 / E 1952
- Bell & Howell Micro-Data Div., 6800 McCormick Rd., Chicago, Ill. 60645 / 312-539-7300 / *C 65**
Microfilm recorders and readers designed to complement computer and tab printers / S ? / E 1961
- Bell Telephone Mfg. Co., Automation Systems Div., Berkenrodelei 33, Hoboken, Belgium / 03-37-7835 / *C 65**
Magnetic tape handlers, document handling systems, postal automation / S 11,000 / E 1882
- Belcol Instrument Corp., 112-03 14th Ave., College Point, L.I., N.Y. 11356 / 516-HI 5-4200 / *C 64**
Research and development, design, development and production of electronic and electromechanical systems and devices. Inertial, navigation systems, radar systems, radar simulation systems, electro-optical systems, large screen data display systems, gun fire and missile launch control systems, gyros, accelerometers, stabilized platforms, north-seekers, timers, programmers, exploders, and missile components; publications, training and engineering services / S 975 / E 1950
- The Bendix Corp. - Bendix-Pacific Div., 11600 Sherman Way, No. Hollywood, Calif. 91605 / 213-765-1010 / *C 65**
Telemetry, components, subsystems and systems / S 2900 / E 1937
- The Bendix Corp., Eclipse-Pioneer Div., Teterboro, N.J. 07608 / 201-288-2000 / *C 65**
Airborne digital computers, analog-to-digital converters, transducers, motor generators, memory storage devices, automatic and manual check-out systems / S 9000 / E 1916
- Bendix Corp., Industrial Controls Div., 8880 Hubbell Ave., Detroit, Mich. 48228 / 272-3710 / *C 64**
Special purpose digital computers for the control of machine tools / S 300 / E 1957
- Bendix Corp., Research Laboratories Div., Southfield, Mich. 48076 / 353-3500 / *C 64**
Research in analog, digital, and hybrid techniques; special purpose analog and digital computing and control systems / S 700 / E 1929
- Benson-Lehner Corp., 14761 Califa St., Van Nuys, Calif. 91401 / 213-781-7100 / *C 65**
Data reduction, handling and translating equipment: record readers (oscillographic, film, etc.), CRT printer/plotter; data display devices including line drawing plotters, point and symbol plotters, special readers including map and blue print readers, digital microscopes and comparators; shaft rotation-to-digital converters; electrically controlled typewriters / S 140 / E 1950
- Berkeley Enterprises, Inc., 815 Washington St., Newtonville, Mass. 02160 / 617-DEacur 2-5453 or 2-3928 / *C 65**
Publisher of "Computers and Automation" and other publications. Scientific kits for educational purposes: Brainiac (computer construction kit); Probability and Statistics kit; Teaching Machines and Programmed Learning kit / S 12 / E 1954
- E. J. Bettinger Co., 20 S. 15 St., 7th Floor, Philadelphia, Pa. / 215-LD 4-0700 / *C 65**
Personnel consultants to the EDP industry / S 20 / E 1955
- Boonshaft & Fuchs — name changed to Weston-Boonshaft and Fuchs, which see**
- Booz, Allen Applied Research Inc., 135 S. LaSalle St., Chicago, Ill. 60603 (also Bethesda, Md. and Cleveland, Ohio) / 312-FRanklin 2-1728 / *C 65**
Broad range of computer services including computer and hardware systems design, installation management, computer feasibility, applications, systems analysis, software design, data processing, and scientific computation / S 525 / E 1955
- Booz, Allen & Hamilton Inc., 135 S. LaSalle St., Chicago, Ill. 60603 (offices also in New York, Washington, D.C., Cleveland, Detroit, San Francisco, and Los Angeles) / 312-FInancial 6-1900 / *C 65**
Management consultants, technical and management services in electronic and automatic data processing for integrated management information and control systems for industry, commerce, government, and institutions; feasibility studies, system design, equipment selection, implementation, systems conversion, EDP audit and review / S 400 / E 1914
- Bourns, Inc., Trimpot Div., 1200 Columbia Ave., Riverside, Calif. / — / *C 64**
TRIMPOT® potentiometers, adjustment and precision types as well as relays; micro components (inductors, transformers, capacitors, and resistors as discrete components or on ceramic substrates) / S 1300 / E 1948
- Bowmar Instrument Corp., 8000 Bluffton Rd., Ft. Wayne, Ind.; Acton Laboratories, Inc. (subsidiary), Acton, Mass.; TIC of Calif. (subsidiary), Newbury Park, Calif. / 219-747-3121 / *C 65**
Precision servo components and assemblies, counters, electronic devices, measurement and test instruments, solid state digital computer readouts / S 1000 (including subsidiaries) / E 1951
- W. H. Brady Co., 727 W. Glendale Ave., Milwaukee, Wisc. 53209 / 414-332-8100 / *C 65**
Tab machine labels, key punch correction seals, computer tape control tabs, tape reel labels, file folder labels, pert symbols (all self-adhesive) / S ? / E 1914
- Brandon Applied Systems, Inc., 30 E 42 St., New York, N. Y. 10017 / 212-YU 6-1518 / *C 65**
Programming and consulting services; technical courses sponsored by Computers and Automation Magazine / S 15 / E 1964
- Richard D. Brew and Co., Inc., 90 Airport Rd., Concord, N.H. 03302 / 225-6605 A/C 603 / *C 64**
Delay lines / S 120 / E 1945
- The Bristol Co., P.O. Box 1790 CAG, Waterbury, Conn. 06720 / 203-756-4451 / *C 65**
Electronic and potentiometric recording, indicating and controlling instruments; telemetering and supervisory control systems; computers, data printers, and loggers; choppers, relays, capsular elements and pressure switches; miniature standard and special cap and set socket screws in stainless and alloy steel / S over 1000 / E 1889
- Brooks Instrument Div., Emerson Electric Co., 407 W. Vine St., Hatfield, Pa. / 215-855-5174 / *C 65**
Flow meters, variable area, turbine, and positive displacement with associated readout and control equipment / S 250 / E 1946
- Charles Bruning Div., Addressograph Multigraph Corp., 1800 W. Central Rd., Mt. Prospect, Ill. 60058 / 312-CL 5-1900 / *C 65**
Dry diazo, moist diazo and electrostatic copiers for use in communicating computer printout by reproduction methods / S 3000 / E 1897
- Bryant Computer Products, Div. of Ex-Cell-O Corp., 850 Ladd Rd., Walled Lake, Mich. 48088 / Market 4-4571 / *C 65**
Magnetic storage drums, magnetic disc files, fixed and flying magnetic recording heads, electronic systems, and electronic circuit modules / S 286 / E 1952
- Bulova Watch Co., Inc., Systems and Instruments Div., 62-10 Woodside Ave., Woodside, N.Y. 11377 / 212-NE 9-5700 / *C 65**
Timers and timing devices; development of automatic fabrication and control processes and machinery; research and development of special-purpose electro-optical and electromechanical devices; precision manufacturing and assembly / S 500 / E 1950
- The Bunker-Ramo Corp., 277 Park Ave., New York, N.Y. / 212-826-7171 / *C 65**
General purpose and special purpose, on-line input/output terminal devices, data communications terminals, CRT and digital displays, on-line data processing services / S 2500 / E 1929
- The Bunker-Ramo Corp., Industrial Control Systems, 8433 Fallbrook Ave., Canoga Park, Calif. 91304 / 346-6000 / *C 65**
Control computer systems and electronic systems for on-line data processing and control / S 450 / E 1964
- J. H. Bunnell & Co., 920 Essex St., Brooklyn, N.Y. 11208 / 212-NI 9-1717 / *C 65**
Tape punch / S 45 / E 1873
- Burlingame Associates, Ltd., 510 S. Fulton Ave., Mt. Vernon, N.Y. 10550 / MO 4-7530 / *C 65**
Analog computers, computing amplifiers and power supplies, analog recorders, analog-to-digital converters, digital voltmeters / S 40 / E 1928
- Burr-Brown Research Corp., 425 So. Plumer, Box 6444, Tucson, Ariz. 85716 / 602-623-0328 / *C 65**
Operational amplifiers, electronic integrators, electronic function generators / S 50 / E 1956
- Burrushs Ann Arbor Lab., P.O. Box 1307, Ann Arbor, Mich. / 313-426-4621 / *C 65**
Design, development, and production of digital display equipment and systems. Demonstrated capability in TV scan conversion, computer driven microfilm recorders, multiple station inquiry systems, direct view command and control consoles, human factor simulators, and bulk information storage and retrieval. Display components available: symbol generators, line generators, display monitors, light pens / S 25 / E 1955
- Burrushs Corp., 6071 Second Ave., Detroit, Mich. 48232 / 313-875-2260 / *C 65**
Electronic data processing and data communications systems and equipment for every general purpose, scientific and military data handling application. Specialized systems and components include input/output systems, magnetic tape storage systems, on-line disc file memory systems, high speed printers and multiple tape listers, paper tape readers and punches, punch card readers and punches, automatic record processors, MICR item processing and document sorter systems, hybrid micro-circuit modules, numerical readouts, alpha-numeric displays, counting and decoding tubes and devices, memory stacks, and magnetic drums, disks, tapes, cores and thin films / S 34,000 / E 1886
- Burrushs Corp., Electronic Components Div., P.O. Box 1226, Plainfield, N.J. 07061 / 201-757-5000 / *C 65**
Single-sided glassivated semiconductors, NIXIE® readout tubes and systems, BEAM-X® switches and modules, ferrite cores, planes and stacks, hybrid circuits, BIPCO® readout drivers/decoders, magnetic core rope and electronic uni- and bi-directional counters / S 800 / E 1954 (division)
- Business Electronics Div., International Accountants Society, Inc., 209 W. Jackson Blvd., Chicago, Ill. 60606 / HA 7-5322 / *C 64**
Home study courses in programming for computers, and applications of business problems to computers / S 9 / E 1955
- BUTLER ROBERTS ASSOCIATES, INC., Sub. of Oki Electronics of America, Inc., 500 S.E. 24 St., Ft. Lauderdale, Fla. 33316 / 305-523-7202 / *C 65**
All computer and EDP peripheral equipment, including high speed line printers, input-output devices both on-line and off-line, etc. / S 12,000 (parent & subs.); 11 (Butler-Roberts Inc.) / E 1881 (parent); 1960 (Butler-Roberts Inc.)
- C**
- Cadre Industries Corp., 20 Valley St., Endwell, N.Y. 13763 / 607-PI 8-3373 / *C 65**
Cable harnesses, cable assemblies, wiring harnesses, custom manufacturing: amplifiers, plug-in modules and panels, test equipment, communications equipment and systems / S 814 / E 1951
- CAE, Compagnie Europeenne d'Automatisme Electronique, 27, rue de Marignan, Paris (8e), France / ELY 47-97 / *C 64**
CAE 510, 530, 3030, 5030 computers / S 600 / E 1959
- California Computer Products, Inc., 305 N. Muller St., Anaheim, Calif. 92803 / 714-774-9141 / *C 65**
Design, develop, manufacture digital incremental plotters and systems for automatic plotting of output from medium-scale and large-scale digital computers / S 175 / E 1959
- Cambridge Communications Corp., 238 Main St., Cambridge, Mass. 02142 / 491-0710 / *C 64**
Solid state abstracts; solid state abstracts on cards and microcards; information processing

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journal; computer abstracts on cards and micro-cards / S 14 / E 1947

Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass. 02138 / 617-876-2800 / *C 65
Digital logic modules / S 300 / E 1941

Canadian Aviation Electronics, Ltd., P.O. Box 6166, Montreal 3, Quebec, Canada / 514-631-6781 / *C 65
Code translators, supervisory control and telemetry equipment, printed circuit boards, flight systems simulators, traffic control equipment, A to D converter / S 1000 / E 1947

Canadian Research Institute, 85 Curlew Dr., Don Mills, Ont., Canada / 416-447-5561 / *C 65
Analog computers; analog to digital converters / S 20 / E 1938

Carlton Controls Corp., 15 Sagamore Rd., Worcester, Mass. 01605 / 617-791-6544 / *C 65
Decimal digital positioning numerical controls / S 10 / E 1957

CBS Laboratories, a Div. of Columbia Broadcasting Systems, Inc., High Ridge Rd., Stamford, Conn. 06905 / 203-325-4321 / *C 64
VIDIAC and LINOTRON character generation, computer photocomposers, display systems and consultation / S 445 / E 1936

C-E-I-R, Inc., One Farragut Square, S., Washington, D.C. 20006 / 212-Executive 3-1111 / *C 65
Data processing service bureaus, scientific and economic studies, statistical analysis, consultants in computer and management sciences / S 900 / E 1954

CENTRALAB, the Electronics Div. of Globe-Union Inc., P.O. Box 591, Milwaukee, Wisc. 53201 / WO 2-9200 / *C 65
PEC® integrated circuits -- typical functions: flip-flop, NOR gate, pulse shrinker, pulse stretcher, TTL NAND, monostable multivibrator. Also produce ceramic capacitors, variable resistors and rotary switches / S 3000 / E 1928

Century Electronics & Instruments, Inc. 6540 E. Apache St., Tulsa 15, Okla. / 918-TE 5-9951 / *C 65
Multi-channel recording oscillographs of direct writing electrophotographic and conventional photographic types; vibration and stress analysis systems; data recording equipment and cameras; input-output devices; galvanometers; null balance recording potentiometers, UV direct writing oscillograph, hi-speed digital printer, telemetry calibrator, precision oscillator / S 650 / E 1945

CG Electronics Div., Gulton Industries, Inc., 15000 Central Ave., East, Albuquerque, N. Mex. 87108 / 505-299-7601 / *C 65
Digital data acquisition and reduction systems; missile and satellite-borne low and high-level PCM telemetry systems; low level-solid state multiplexers; high security digital command and monitoring systems; high speed A/D, D/A converters; digital timers; supervisory control systems; physiological data collection systems; automatic checkout and testing systems; computer linkage; data translation and formatting systems, digital serializers and visual readout devices; printed circuits, microwelded, copper deposition modules / S 180 / E 1957

Chadwick-Helmuth Co., 111 E. Railroad Ave., Monrovia, Calif. 91016 / 358-4567 / *C 64
Oscilloscope, sweep control, pulse camera, slow motion sampling, electronic counters / S 15 / E 1953

Chalco Engineering Corp., 15126 S. Broadway, Gardena, Calif. 90247 / 213-FAculty 1-0121 / *C 65
Punched tape readers, power supplies / S 90 / E 1951

Cheshire, Inc., 408 Washington Blvd., Mundelein, Ill. 60060 / 312-566-7880 / *C 65
Machines which cut and apply computer-printed forms to mailing pieces as labels or heat-transferred address, imprints at speeds to 20,000 per hour / S 75 / E 1928

Chicago Switch Div., F & F Enterprises, Inc., 1733 Milwaukee Ave., Chicago, Ill. 60647 / 312-276-8121 / *C 65
Panel switches, illuminated panel switches / S 35 / E 1954

Chrono-log Corp., 2583 West Chester Pike, Broomall, Pa. 19008 / ELgin 6-6771 / *C 65
Real-time reference systems for digital computers, including time and date. Programmable real-time clocks for digital computers. Digital clocks, calendars, counters. Consultants in process control, computer control, industrial and military / S 10 / E 1956

Cincinnati Time Recorder Co., 1733 Central Ave., Cincinnati, Ohio 45214 / 513-241-5500 / *C 65
Fire alarms, master time and program systems, time recorders, indicating wall clocks, signaling devices, automatic parking control equipment, service supplies and data collection systems / S 300 / E 1896

C & K Components, Inc., 103 Morse St., Newton, Mass. 02158 / 617-926-0800 / *C 64
Magnetic shift registers, encapsulated logic circuits, special purpose ultra-low power magnetic counting systems / S 40 / E 1958

C.P. Clare & Co., 3101 W. Pratt Blvd., Chicago, Ill. 60645 / 312-AM 2-7700 / *C 65
Relays, sealed contact read relays, mercury wetted contact relays, telephone type relays, stepping switches / S 1500 / E 1937

Clarkson Press Inc., Subsidiary of Graphic Controls Corp., 189 Van Rensselaer St., Buffalo, N.Y. 14210

/ 853-7500 / *C 64
GC data processing forms, continuous data processing forms / S 120 / E 1946
Clarostat Mfg. Co., Inc., Washington St., Dover, N.J. 03820 / 603-742-1120 / *C 64
Precision potentiometers (wired and composition element), switches, wirewound power resistors / S 1400 / E 1922

Clary Corp., 408 Junipero St., San Gabriel, Calif. / Clumberland 3-2724 / *C 65
Solid state scientific computers, arithmetic center, high-speed line printers, solenoid printers, graphic arts products, construction automation machinery, missile components and tape perforating equipment / S 344 / E 1939

Clifton Precision Products, Div. of Litton Industries, Marple at Broadway, Clifton Heights, Pa. 19018 / 215-622-1000 / *C 65
Analog to digital and digital to analog converters; servomechanisms and synchros / S 1300 / E 1945

Coburn Credit Co., Inc., Coburn Bldg., Rockville Centre, N.Y. 11571 / Rockville Centre 4-2800 / *C 64

IBM 1410, used in consumer finance / S 370 / E 1955
Codamite Corp., P.O. Box 2518, Anaheim, Calif. 92804 / 714-774-4707, 714-776-5432 / *C 65
Code generators and translators / S 30 / E 1962

Cognitronics Corp., 549 Pleasantville Rd., Briarcliff Manor, N.Y. / RO 9-7900 / *C 65
General purpose programmable computers for graphic arts; magnetic memory drum systems. Digital to audio outputs / S 33 / E 1961

Cohu Electronics, Inc., Kin Tel Div., P.O. Box 623, San Diego, Calif. 92112 / 714-277-6700 / *C 65
Digital data logging systems and systems components / S 300 / E 1945

Coleman Electronic Systems, 3210 W. Central Ave., Santa Ana, Calif. 92702 / 546-1600 / *C 64
Data logging systems, N/C machine tool systems, vote tallying system (computer), DIGITIZER® shaft angle encoder / S 100 / E ?

Collins Radio Co., Information Science Center, 19700 San Joaquin Rd., Newport Beach, Calif. / Kimberly 902911 / *C 64

Collins Kineplex data communications systems for transmission of punched card, magnetic tape and other digital information over telephone line, radio circuit or other voice channels. Commercial and military communication and data processing systems and equipment including airborne data systems, teletype and other message switching systems / S 1000 / E 1950

Colorado Instruments, Inc., Garden Office Center, Broomfield, Colo. 80020 / 303-466-7333 / *C 65
Digital data acquisition systems (special-purpose, designed to meet customer requirements) and computer data entry keyboards (C-Dek) / S 25 / E 1961

Columbia Ribbon & Carbon Mfg. Co., Inc., Herhill Rd., Glen Cove, N.Y. 11542 / 516-OR 6-2730 / *C 65
Fabric and smudge proof film base ribbons for high speed printers and other data processing equipment, continuous duplicating masters, spirit and offset / S 800 / E 1905

Columbia Technical Corp., 24-30 Brooklyn-Queens Expressway West, Woodside, N.Y. 11377 / 212-YE 2-0800 / *C 65

Delay lines: cermet film, hybrid circuits / S 65 / E 1950
Comcor, Inc., 1335 S. Claudina, Anaheim, Calif. / 714-772-4510 / *C 65

General purpose and special purpose computing systems; analog, digital and hybrid. Special simulators, data handling systems / S 200 / E 1959

Commerce Clearing House, Inc., 4025 W. Peterson Ave., Chicago, Ill. 60646 / 312-CO 7-9010 / *C 65

Loose leaf automation reporter / S 1700 / E 1913

Components Corp., 106 Main St., Denville, N.J. / 201-627-0290 / *C 65

Decade counting units — DIGI-KLIPS® (Printed circuit connectors) / S 10 / E 1943

Computer Applications Inc., 555 Madison Ave., New York, N.Y. 10022 / 212-PL 9-1310 / *C 65
Computer programming and data processing service bureau facilities, including IBM 1401 and 1410 computers / S 600 / E 1960

COMPUTER ASSOCIATES, INC., Lakeside Office Pk., Wakefield, Mass. / 617-245-9540 / *C 65
Research, development, production, and consulting activities in digital computer programming, including: utility programs and packages, compilers and assemblers, programming and operating systems, time-sharing systems, command and control systems, information storage and retrieval systems, artificial intelligence, and scientific and commercial applications / S 40 / E 1961

Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. / 875-6185 / *C 65

Computers and special-purpose digital systems for space, engineering, training, scientific and business applications. Digital modules, magnetostrictive delay lines, test instruments, magnetic core memories, decimal or octal to binary electromechanical switches and keyboards. Space vehicle instrumentation, simulation and data handlers; information storage and retrieval

val; missile tracking and positioning; signal processing and time compression; language translators; industrial process and machine tool control; business data processing; pulse pattern and range time code generation; computer training devices / S 1200 / E 1952

Computer Devices Corp., 6 West 18th St., Huntington Sta., N.Y. 11746 / 516-AR 1-0666 / *C 65
Serial memories (wire sonic delay line type); other delay lines for trim and time adjustment; word generators / S 30 / E 1961

Computer International Trade Corp., P.O. Box 66847 (2708 Bagby), Houston, Tex. 77006 / 713-Jackson 4-3111 / *C 65

Broker for used computers, using national advertising and personal follow-up through International Sales Organization / S 80 / E 1964

Computer Logic Corp., 11800 Olympic Blvd., Los Angeles 64, Calif. / Granite 9-3318 / *C 65
Small custom digital systems, standard and special digital instruments; manufacture and sale of proprietary logic cards and system components; Logic-Lab, special purpose digital computers and automatic checkout devices / S 12 / E 1960

Computer Products Inc., 1717 "M" St., South Belmar, N.J. / 201-681-3100 / *C 64
Analog computers, general purpose, precision; simulators; analog computer components; analog computer modernization and modification; electronic mode control; display systems; analog computer field service / S 135 / E 1961

COMPUTRON, INC., Member of the BASF Group, 122 Calvary St., Waltham, Mass. 02154 / 617-899-0880 / *C 65
Magnetic tape for computers and instrumentation / S 250 / E 1960 (Computron, Inc.); 1865 (BASF)

Connecticut Technical Corp., 3000 Main St., Hartford 5, Conn. 01620 / 203-522-6167 / *C 64
Peripheral equipment. Input-output typewriters, numeric data loggers, keyboards, tape punching systems, listing printers (serial and parallel entry) / S 20 / E 1960

Consolidated Avionics, 800 Shames Dr., Westbury, N.Y. 11590 / 516-ED 4-8400 / *C 65

Transistorized power supplies, automatic test equipment, digital systems, logic modules, magnetic card readers, engine generator control modules / S 150 / E 1957

Consolidated Electrodynamic Corp., 360 Sierra Madre Villa, Pasadena, Calif. 91109 / 213-796-9381 / *C 65

Electronic instruments for measurement, analysis, and control; instrumentation for dynamic testing; amplifiers, analog and special purpose computers; automatic control equipment; data processing, data recording and data reduction equipment; information retrieval devices; input-output devices; electronic multipliers; regulated power supplies; magnetic tape recorders, readers, storage systems and reels, tape handlers; magnetic tape; recording papers; research; telemetering systems; transducers / S 3000 / E 1937

Consolidated Systems Corp., 1500 S. Shamrock Ave., Monrovia, Calif. / 213-359-9111 / *C 64

A wide range of electronic and electro-mechanical systems for data handling, ground and space support, checkout, ordnance, industrial control, and analog and flight instrumentation. Also analog to digital conversion and recording systems; printed circuit boards; military cameras, and electro-optical systems / S 700 / E 1954

Continental Connector Corp., 34-63 56th St., Woodside, N.Y. 11377 / 212-TW 9-4422 / *C 65

Complete line of printed circuit, micro-miniature, miniature, center screwlock, power, special designs and crimp-type removable contact plug and socket precision electronic connectors for computer, guided missile, aircraft and communication applications / S 500 / E 1952

Control Data Corp., 8100 34th Ave. So., Minneapolis, Minn. 55440 / 612-888-5555 / *C 65

Digital computers, systems and devices; peripheral equipment; data processing equipment; guidance and communications systems; visual output devices; source data collectors; magnetic tape units; digital control systems; control equipment / S 8500 / E 1957

Control Data Corp., Control Systems Div., 4455 Miramar Rd., La Jolla, Calif. / 714-453-2500 / *C 65
636 computer, process control systems, analog computers and controllers, electric actuators, MagSense® comparators / S 315 / E 1956

Control Equipment Corp., 19 Kearney Rd., Needham Heights, Mass. 02194 / 617-444-7550 / *C 65
Design, development and manufacture of special purpose digital computers, data processing systems, and digital industrial control systems. Complete line of digital modules and system components / S 25 / E 1956

Control Logic, Inc., 3 Strathmore Rd., Natick, Mass. 01762 / 617-655-1170 / *C 65

Welded digital circuit modules; data and control systems; digital training systems / S 70 / E 1961

Controlmag Laboratories, 2459 Susquehanna St., Roslyn, Pa. 19001 / 215-884-8098 / *C 65
Custom digital counters and controls / S 18 / E 1959

Control Systems Corp., 5150 Duke St., Alexandria, Va.

Roster of Organizations

- / 703-354-9000 / *C 65
Decoders, encoders; active solid-state filters; displays, electronic and electro-mechanical; telemetering systems / S 35 / E 1961
- Contronics Inc., 43 Leon St., Boston, Mass. 02115 / HI 2-8080 / *C 64
Alpha-numeric display equipment / S 15 / E 1959
- Cook Electric Co., Data-Store Div., 6401 W. Oakton St., Morton Grove, Ill. 60053 / 312-967-6600 / *C 65
Digital magnetic tape recorders, photoelectric punched tape readers, incremental tape recorder systems, miniature magnetic tape recorders, both military and commercial applications; all products / S 200 / E 1957 (Data-Store Div.), 1897 (Cook Electric Co.)
- Cornell-Dubilier Electronics, Div. of Federal Pacific Electric Co., 50 Paris St., Newark 1, N.J. / MARKET 4-7500 / *C 64
Capacitors, relays, pulse networks, filters, converters, delay lines, vibrators, antenna rotators, inverters, test instruments, packaged circuits and systems / S 4000 / E 1910
- Corning Glass Works, 3900 Electronics Drive, Raleigh, N.C. / 919-828-0511 / *C 65
Microcircuits, capacitors, resistors, glass memory delay lines, printed circuit boards / S ? / E ?
- Cramer Division, Giannini Controls Corp., Old Saybrook, Conn. / EV 8-3574 / *C 64
Timing devices, elapsed time indicators, time delay relays, AC and miniature DC timing motors / S 400 / E 1939
- Creed & Co., Ltd. (Assoc. of IIT Corp.), Creed House, 8 Hinde St., London W.1., England / WELbeck 9121 / *C 65
Wide range of teleprinters and punched tape equipment for communications, data processing, automation. Product range includes 300 characters per second punch — Model 3000; and 100 characters per second printer — Model 1000 for computer output recording / S 2500 / E 1909
- Crystalonics Inc., 147 Sherman St., Cambridge 40, Mass. / 617-491-1670 / *C 65
Semiconductors, solid circuits / S 100 / E 1959
- James Cunningham, Son & Co., Inc., 10 Carriage St., Honeoye Falls, N.Y. 14472 / Honeoye Falls 485 / *C 65
Scanners, switches, scanning and switching systems, video and high frequency applications for special requirements / S 180 / E 1838
- Cybernetics General Co., 4247 Park Blvd., San Diego, Calif. 92103 / 714-297-4593 / *C 65
Technical services in programming, systems engineering and computer and data processing requirements analysis / S 11 / E 1963
- Cyber-tronics, Inc., 915 Broadway, New York, N.Y. 10010 / 212-OR 4-9150 / *C 65
All computers and punch-card machines; rental and sale / S 130 / E 1961
- Cybetronics Inc., 132 Calvary St., Waltham, Mass. 02154 / 617-899-0012 / *C 64
Magnetic tape rehabilitation services, tape certifiers, cleaners and rewinders; magnetic tape testers, magnetic tape cleaner, digital system for controls, consulting services, special-purpose computer and peripheral memory systems / S 30 / E 1960
- Cycle Equipment Co., 17480 Shelburne Way, Los Gatos, Calif. 95030 / 408-356-6196 / *C 65
Tape winders, unwinders, feeders and transports for handling perforated paper tape / S 6 / E 1948
- Cycle Transformer Corp., 356 Glenwood Ave., East Orange, N.J. / OR 4-0731 / *C 64
Transformers, relay coils, voltage regulators / S 50 / E 1944
- D
- Dapex — see Data Processing Equipment Exchange Co.
- Data-American Equipment Co., 333 No. Michigan Ave., Chicago, Ill. 60601 / 312-CE 6-2525 / *C 65
Data-Vault, a safe and vault for the protection of computer tapes, disc packs and microfilm from fire, explosion and moisture / S ? / E 1961
- The Data Corp., 4050 Wilshire Blvd., Los Angeles, Calif. 90005 / 213-385-9255 / *C 65
Consultants, methods analysts, systems analysts, programmers for major computer manufacturers. In house IBM 1460/360, SDS 910, Philco and REI Optical scanners. Representation in principal cities / S 150 / E 1962
- Data Display, Inc., 1820 Como Ave., St. Paul, Minn. / 612-646-6371 / *C 64
Cathode ray tube display systems and input devices for digital computers / S 185 / E 1958
- Data Dynamics, Inc., 305 Webster St., Monterey, Calif. 93940 / 408-375-4133 / *C 65
Mathematical, operations and systems analysis and programming / S 110 / E 1962
- Data Machines, Inc., 1590 Monrovia Ave., Newport Beach, Calif. / 714-646-9371 / *C 65
DATA 600 series general purpose, stored program scientific computers / S 6 / E 1964
- Datamec Corp., 345 Middlefield Rd., Mountain View, Calif. / 415-968-7291 / *C 64
Digital magnetic tape units; low cost electro-mechanical computer peripherals including input/output devices / S 45 / E 1961
- Data Processing Equipment Exchange Co., 366 Francis Bldg., Louisville, Ky. / GL 1-7547, JU 5-5454 / *C 65
Computer broker; used punch card equipment specialist. Buy or sell used DP equipment, key punches through computers, through DA-PEX Co. Associate. Used broker inquiries invited / S ? / E ?
- Data Processing Management Association, 524 Busse Highway, Park Ridge, Ill. 60068 / 312-825-2128 or 2129 / *C 65
Publications: Journal of Data Management, DPMA Quarterly / S 23 / E 1951
- Data Products Corp., 8535 Warner Drive, Culver City, Calif. 90231 / 213-837-4491 / *C 65
High speed printers and rotating disc memory systems. Informatics Inc., a wholly-owned subsidiary, specializes in user-oriented systems on any system or application involving utilization and programming of electronic digital computer systems / S 490 / E 1962
- Datapulse Inc., 509 Hindry Ave., Inglewood, Calif. 90306 / Orchard 1-7713, Oregon 8-3993 / *C 65
Test instrumentation: pulse generators, data simulators / S 50 to 100 / E 1961
- Data Systems Devices of Boston, Inc. — moved, left no address
- Data Systems Inc., 10700 Puritan Ave., Detroit, Mich. 48238 / 313-341-6900 / *C 65
Design, develop and manufacture digital computers and systems for computer communications and information converters / S 50 / E 1961
- Data Tech, 127 Coolidge Hill Rd., Watertown, Mass. 02172 / 617-924-1773 / *C 64
Shaft encoders, electronic counters, digital positioning servos, rotary transformers / S 20 / E 1960
- Data Trends, Inc., 1259 Route 46, Parsippany, N.J. 07054 / 201-334-1515 / *C 65
Specialists in the real-time systems field. Design and manufacture of terminal I/O devices and associated communications buffering units normally found in real-time systems / S ? / E 1962
- Datex Corp., 1307 S. Myrtle Ave., Monrovia, Calif. / ELLiot 9-5381 / *C 64
Analog-to-digital shaft position encoders, automatic controls, data recording and control systems, card readers, printers, meteorological recording systems, servo positioning and control systems, stress analysis and computing systems, numerically controlled machine tools, telemetry supervisory and control systems, process control systems, digitizing and recording of data in scientific instrument. Design and development of all types of digital equipment for industrial and military applications / S 250 / E 1952
- Davidson Electronic Development Co., 2211 Peninsula Drive, Erie, Pa., 16505 / 814-833-9818 / *C 65
Input consoles / S 10 / E 1951
- Dayton Electronic Products Co., Inc. 117 E. Helena St., Dayton, Ohio 45404 / 513-224-1416 / *C 65
250 KC and 1 MC logic circuits, custom circuits, control systems, data acquisition systems and digital logic training devices / S 95 / E 1951
- Decision Control, Inc., 1590 Monrovia Ave., Newport Beach, Calif. / 714-646-9371 / *C 65
Coincident current core memory systems, logic modules, digital systems / S 50 / E 1956
- Delco Radio Div., General Motors Corp., 700 E. Firmin St., Kokomo, Ind. / 312-GL-78461 / *C 65 (Semiconductors) silicon and germanium power transistors, silicon rectifiers, digital circuits and support equipment; data format converters; data acquisition and recording systems; digital circuit modules to 10 m.c. speeds; special purpose digital systems; solid state industrial control systems / S 6000 / E 1936
- Deltine, Inc., 225 Hoyt St., Mamaroneck, N.Y. / — / *C 64
Data storage sonic delay lines / S ? / E ?
- Dennison Manufacturing Co., Machines Systems Div., 300 Howard St., Framingham, Mass. 01702 / 617-873-3511 / *C 65
Cummins-Dennison Dat-A-Read / S 3800 / E 1844
- The G. C. Dewey Corp., 202 E. 44 St., New York, N.Y. 10017 / 212-MJ 2-7369 / *C 65
Digital, analog computers / S 125 / E 1955
- Dialight Corp., 60 Stewart Ave., Brooklyn, N.Y. 11237 / 212-HYacinth 7-7600 / *C 65
Indicator lights, pilot lights, ultra-miniature indicator lights ("Datalites") for computer and automation fields. Data-Strip and Data-Matrix for computers, etc. Telephone light strips and indicator lights; transistorized indicator lights. Illuminated pushbutton switches. Oil-tight indicator lights for heavy-duty industrial applications. Single plane numeric readout / S 250 / E 1937
- Dialtron Corp., 203 Harrison Pl., Brooklyn 37, N.Y. / HYacinth 7-7600 / *C 65
Time delay relays for computers, data processing and automation equipment / S 230 / E 1938
- Diamond Products Mfg. Co., McConkey St. Ext., Shreve, Ohio / 216-547-4211 / *C 65
Computer components of alumina ceramics, high strength, low loss, high density, electrical insulating, vacuum tight, readily metallized. Sizes available, subminiature through normal size requirements / S 175 / E 1940
- DI/AN Controls, Inc., 944 Dorchester Ave., Boston, Mass. 02125 / 617-288-7700 / *C 65
Buffer storages, core memories, high-speed lister-printers, special purpose digital and analog computers, code and format converters, digital computer elements, counters, magnetic and transistor shift registers and logical elements, airborne memories, clocks, programmers, automatic typesetting systems / S 250 / E 1958
- Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / VI 6-4155 / *C 65
D.C. analog computers — analog computing services. Analog computing services; general purpose analog computers. Design and construction of special purpose computers, simulators, and trainers / S 10 / E 1955
- The Diebold Group, Inc., 430 Park Ave., New York, N.Y. 10022 / 212-PLaza 5-0400 / *C 65
Full range of integrated services in the fields of modern management and management science. Areas of specialization include automation, automatic data processing, programming, information technology, product and business planning analyses. Subsidiary companies in 13 cities on two continents / S 150 / E 1954
- Digital Development Corp., 5575 Kearney Villa Rd., San Diego, Calif. / 714-278-9920 / *C 65
Magnetic drums, magnetic discs, memory systems, electro-optical equipment / S 120 / E 1959
- Digital Devices, Inc., 212 Michael Drive, Syosset, L.I., N.Y. / 516-WA 1-2400 / *C 65
Magnetostrictive delay line memory systems / S 12 / E 1962
- Digital Electronics Inc., 2200 Shames Drive, Westbury, N.Y. / 516-ED 3-2115 / *C 64
General purpose computers, training computers, data conversion equipment, computer test equipment, magnetic tape systems / S 50 / E 1961
- Digital Equipment Corp., 146 Main St., Maynard, Mass. / 617-TW 7-8822 / *C 65
Solid state, general purpose digital computers, memory test systems, special purpose systems, and digital circuit modules / S 750 / E 1957
- Digitronics Corp., Albertson Ave., Albertson, L.I., N.Y. 11507 / 516-HT 4-1000 / *C 65
High-speed data communications terminals; data acquisition and transmission systems; tape readers and handlers / S 300 / E 1957
- Dimensions, Inc., 95 Madison Ave., Hempstead, L.I., N.Y. 11550 / — / *C 64
Plotters / S ? / E ?
- Documentation Inc., 4833 Rugby Ave., Bethesda 14, Md. / 656-9500 / *C 64
Systems design — advanced systems design and operation of large information centers and libraries; mechanized publication techniques — computer-generated indexes and tape-operated photocomposition for producing high-quality journals; Docuforms — commercial version of government/DOC INC development using transparent flat film, provides compact, random-access filing with rapid retrieval and reproduction capabilities; information searching, indexing and abstracting — scientific information staff available / S 425 / E 1951
- Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N.Y. / NE 8-9472 / *C 65
Build-up "Tape-Store" units for storage of electronic data processing tape / S 70 / E 1948
- Douglas Randall Inc., a subsidiary of Walter Kidde & Co., Inc., 441 Pawcatuck Ave., Westerly, R.I. 02891 / 203-599-1750 / *C 65
Reed relays, coils / S ? / E 1950
- Drake Manufacturing Co., 4626 N. Olcott Ave., Harwood Heights, Ill. 60656 / 312-867-7227 / *C 65
Specialists in miniature lighting for computers and automatic equipment. Products include indicator and read-out lights, lampholders, metal stampings, wire harnessing, brackets, neon and incandescent lamps and other accessories. For commercial or military projects / S approx. 130 / E 1932
- Dresser Products Inc., 114 Baker St., Providence, R.I. 02905 / 401-781-4430 / *C 65
Accessories — tape handling equipment and filing supplies / S 9 / E 1955
- DREXEL DYNAMICS CORP., Maple Ave., Horsham, Pa. 19044 / 215-OSborne 2-2200 / *C 65
Static card readers / S 150 / E 1956
- E. I. du Pont de Nemours & Co., 1007 Market St., Wilmington, Del. 19898 / 302-PR 4-2421 / *C 65
Differential analyzers, recording papers / S 100,000 / E 1802
- Dura Business Machines, Div. of Dura Corp., 32200 Stephenson Highway, Madison Heights, Mich. 48071 / 313-588-1100 / *C 65
Dura MACH 10 automatic typewriter, Dura converter / S ? / E 1961
- Durant Mfg. Co., 600 N. Cass St., Milwaukee, Wisc. 53201 / 414-271-9300 / *C 65
Digital read-out instrument counters and indicators / S 300 / E 1879
- Dymec Div. of Hewlett-Packard Co., 395 Page Mill Rd., Palo Alto, Calif. 94306 / 415-326-1755 / *C 65
Digital instrumentation systems / S 500 / E 1956
- E
- E-A Industrial Corp., 2326 South Cotner Ave., Los Angeles, Calif. 90064 / 213-477-5078 / *C 65
Digital systems and computers for process control / S ? / E 1962
- Eastman Kodak Co., 343 State St., Rochester, N.Y. 14650 / 716-325-2000 / *C 65
Photographic equipment, staple synthetic and

Roster of Organizations

- organic chemicals and dyestuffs; facsimile equipment (photocopy); recording paper / S 50,000 / E 1889
- Ebasco Services Incorporated, 2 Rector St., New York 6, N.Y. / Digby 4-4400 / *C 65
- Engineering and management consultants; consulting services in application of electronic data processing to accounting and business systems; engineering applications; plant automation; feasibility studies; installations / S 1600 / E 1905
- E D P Corp., 1900 N. Mills Ave., Orlando, Fla. 32803 / 305-241-5324 / *C 65
- Code translators and digital displays. Time Code-Generators-Encoders-Decoders. Sequencers and event programmers. Monitoring and remote control systems / S 75 / E 1959
- EDP Management, Inc., P.O. Box 393, New York, N.Y. 10008 / — / *C 65
- Consulting services: computer type communication systems; economic research; information engineering; programming; research; and systems engineering / S ? / E ?
- ELCO Corp., Maryland Rd. & Computer Ave., Willow Grove, Pa. 19090 / 215-659-7000 / *C 65
- VARICON* Connectors, BI/CON* Connectors, MICROCON* Connectors, MODUCON* Micro-modules, VARIMATE* Connectors, VARIPLATE* Connectors, VARIPAK* Card Cages, E-Z MATE* Tube Sockets (*Trade Mark) / S 700 / E 1947
- Electric Indicator Co., Inc., Camp Ave., Stamford, Conn. 06879 / 203-322-1671 / *C 65
- Sub-fractional and fractional A/C and D/C motors, generators and blowers used in computers / S 170 / E 1926
- The Electric Tachometer Corp., 68th & Upland Sts., Philadelphia, Pa. 19142 / 215-SA 6-7723 / *C 64
- Servomechanisms / S 50 / E 1916
- Electro Instruments, Inc., 8611 Balboa Ave., San Diego, Calif. 92112 / 714-277-6590 / *C 65
- Digital voltmeters, ohmmeters, ratimeters; analog-to-digital converters; wideband DC amplifiers, X-Y recorders, monitor oscilloscopes, digital data systems / S 647 / E 1954
- N. V. Electrológica, 214 Stadhoudersplantsoen, The Hague, The Netherlands / 070-514641 / *C 65
- EL X2, EL X3, EL X4, EL X5 and EL X8 computers, EL 1000 high speed tape reader / S 500 / E 1956
- Electro-Mechanical Research, Inc., P.O. Box 100, Sarasota, Fla. 33578 (company divisions include: Sarasota Div., Sarasota, Fla.; Advanced Scientific Instruments Div., Minneapolis, Minn.; Princeton Div., Princeton, N.J.) / 813-955-8153 / *C 65
- General purpose digital computers and accessories, telemetry data acquisition and processing equipment, shaft position digital encoders / S 1500 / E 1941 (Conn.)
- Electro-Mec Instrument Corp., 47-51 33rd St., Long Island City 1, N.Y. / Stillwell 6-3402 / *C 64
- DIGITOMETERS (trade name), analog to digital converters; potentiometers (computer type); resistors, wirewound, precision; goniometers (angle measuring fixture for calibration of potentiometers, synchros, etc.), rotary switches / S 130 / E 1950
- Electro-Miniatures Corp., 600 Huyler St., S. Hackensack, N.J. 07606 / 201-488-7770 / *C 64
- Slip rings and brush assemblies, commutators, rotary switches, plastic molded parts, optical code discs / S 175 / E 1955
- Electronic Associates Inc., West Long Branch, N.J. / 201-222-1100 / *C 65
- Analog, digital and hybrid computers, digital plotting equipment, computing services / S 2500 / E 1945
- Electronic Development Corp., 423 West Broadway, Boston, Mass. 02127 / 617-268-9696 / *C 64
- A/D converters, precision voltage reference sources, millivolts, programmable voltage measurement systems, shaft encoder translators / S 20 / E 1958
- Electronic Engineering Co. of California, 1601 E. Chestnut Ave., Santa Ana, Calif. / 714-547-5501 / *C 65
- Computer format control buffers, analog multiplexers, analog to digital converters, punched tape reader for computers, automatic magnetic tape search and control systems / S 200 / E 1947
- Electronic Memories, Inc., 12621 Chadron Ave., Hawthorne, Calif. 90250 / 213-772-5201 / *C 65
- Design and manufacture memory cores, memory arrays and stacks, and memory systems for commercial, industrial, scientific and aerospace/space vehicle applications / S 430 / E 1961
- Electronic Modules Corp., 1949 Greenspring Drive, Timonium, Md. 21093 / CL 2-2900 / *C 64
- Computers and special purpose digital control systems for military, government and commercial applications. Digital process and machine controls. Digital logic modules, 250 kc to 10 mc / S 170 / E 1961
- Electron Ohio, Inc., 1278 W. 9th St., Cleveland, Ohio 44113 / 621-5196 / *C 64
- Data delay systems, bar chart recorders / S 15 / E 1961
- Electropac, Inc., a subsidiary of Computer Control Company, Inc., Industrial Park, Peterborough, N.H. 03458 / 603-924-3821 / *C 65
- Contract manufacturer of electronic and electromechanical equipment (computer, aerospace, industrial, medical). Production or prototype construction wiring or circuit assembly to commercial or Mil specifications / S 220 / E 1960
- Electro Rack, 1341 So. Claudina, Anaheim, Calif. 92805 / 776-5420 / *C 64
- Computer consoles (cabinets) / S 37 / E 1959
- Elgenco Inc., 1550 Euclid St., Santa Monica, Calif. 90404 / 213-451-1635 / *C 65
- Electronic noise generators, computer auxiliary equipment, statistical equipment / S 12 / E 1955
- El-Rad Manufacturing Co., 4300 N. California Ave., Chicago, Ill. 60618 / 312-478-7300 / *C 65
- Delay lines and pulse transformers for computer application / S 300 / E 1944
- Embee Electronics Corp., 10 W. Main St., West Hartford, Conn. 06107 / 203-233-8588 / *C 64
- DC power supplies, analog operational amplifiers / S 10 / E 1959
- Encoder Div., Litton Precision Products, Inc., Div. of Litton Industries, 7942 Woodley Ave., Van Nuys, Calif. 91406 / 781-2111 / *C 64
- Analog to digital converters / S 70 / E 1963
- Engineered Electronics Co., 1441 E. Chestnut Ave., Santa Ana, Calif. / 714-547-5551 / *C 65
- Transistorized plug-in modules, indicators and decodes; rotary thumbwheel switches. Complete line of digital building blocks. Transistorized plug-in modules, transistorized Minisig indicators, transistorized decade counters. Systems development racks available for patching up preliminary systems prior to production work. All units use standard pin connections / S 200 E 1954
- English Electric-Leo-Marconi Computers Ltd., Kingsgrove, Stoke-on-Trent, Staffs, England / KIDSGROVE 2141 / *C 65
- Data processing systems for commerce, industry and science. Time high facilities at Computer Bureau. Back-up Service Centres. Commercial, technical and management science bureau services / S 3250 / E ?
- Epsco, Inc., 411 Providence Hwy., Westwood, Mass. 02090 / 617-329-1400 / *C 65
- Computer components and equipment; special purpose computers, monitoring systems, computer linkages and format recorders, 1 and 5 megacycle digital circuit cards, wide-board amplifier series, portable data gathering systems, high speed A/D converters, volt-meters, reference sources. Pulse code modulation air and ground telemetry systems / S 275 / E 1954
- ESC Electronics Corp., 534 Bergen Blvd., Palisades Park, N.J. / 201-947-0400 / *C 64
- Electromagnetic delay lines, pulse forming networks, filters / S 180 / E 1953
- Essex Systems Co., Inc., 9 East 38th St., New York, N.Y. / OR 9-6190 / *C 64
- Specialists in the design and production of all printed forms for tabulators and computers / S 22 / E 1957
- ESS GEE, Inc., 1 Holland Ave., White Plains, N.Y. / WH 6-1200 / *C 65
- Airborne data processing equipment and instrumentation. Instrumentation and recording equipment for operation into computers, A/D converters, and computer interconnection components. Ground data handling systems / S 75 / E 1959
- Evershed & Vignoles Ltd., Acton Lane Works, Chiswick, London W. 4, England / Chiswick 3670 / *C 65
- Special purpose analog computers, data loggers, industrial telemetry, process control, servo-system components / S 2300 / E 1895
- Exact Electronics, Inc., 455 So. 2nd St., Hillsboro, Ore. / MI 8-6661 / *C 64
- Catalog function generating and waveform generating equipment for producing all types of complex and standard waveforms .001 cycles to 250 KC / S 27 / E 1957
- Executone, Inc., 47-37 Austell Place, Long Island City, N.Y. 11101 / 212-EXeter 2-4800 / *C 65
- Electronic voice communication, sound, signaling and pocket page systems / S 450 / E 1937
- E-Z Sort Systems, Ltd., 45 Second St., San Francisco, Calif. 94105 / 415-GAI-8005 / *C65
- Edge-punched cards for filing and sorting data. Special cards for correlation of facts. Control systems for a number of electronic computers. Teaching machines, program scheduling / S 186 / E 1935
- E
- Fabri-Tek Inc., Box 645, Amery, Wisc. / 715-268-7155 / *C 65
- Core memory planes, stacks and systems, thin film system / S 2000 / E 1957
- Facit-Ohmer Inc., a subsidiary of Atvidabergs Industries of Sweden, 222 East 44 St., New York, N.Y. 10017 / 212-TN 7-7171 / *C 65
- Sale of the Facit high-speed tape reader, tape punch and tape duplicator / S 10,000 / E 1922
- Fairchild Controls, Div. of Fairchild Camera and Instrument Corp., 225 Park Ave., Hicksville, L.I., N.Y. 11802 / 516-WE 8-5600 / *C 65
- Especially for computing and data processing industries — a complete new line of single turn, multi-turn potentiometers and trimmers (FAIRCON) / S 500 / E 1945
- Fairchild Semiconductor, 313 Fairchild Drive, Mountain View, Calif. / 415-962-5011 / *C 64
- Semiconductor devices, solid state microwave products, semiconductor test equipment, solid state system modules / S 4000 / E 1947
- Fairchild Space and Defense Systems, Div. of Fairchild Camera and Instrument Corp., 300 Robbins Lane, Camersset, L.I., N.Y. / 516-WE 1-4500 / *C 65
- Reconnaissance, mapping and ground data handling systems; special purpose computers; digital controls and electronics; data block readers; data annotation; special fixed memory devices; frequency control and time-base generators / S 1300 / E 1920
- Farrington Electronics, Inc., Shirley Industrial Park, Springfield, Va. / 703-354-5000 / *C 65
- Optical character recognition equipment, series 9SP; 1D' IP; SD and source data recorders / S 300 / E 1953
- Federated Engineering Development Corp., 4630 E. Floral Dr., Los Angeles 22, Calif. / 213-AN 8-6761 / *C 64
- Auxiliaries used in automation or processing lines / S 20 / E 1953
- Feedback Controls, Inc., 8 Erie Dr., Natick, Mass. / OL 3-3441 / *C 64
- Magnetic amplifiers, quadrature reflectors, data repeaters, servo multipliers, servomotor gearheads, computer test equipment, special purpose analog computers / S 70 / E 1954
- Ferranti Electric, Inc., Plainview, L.I., N.Y. / 516-WE 8-7500 / Mfg. plant at Plainview. Agent for Ferranti Ltd., Hollinwood, Eng. / *C 64
- Magnetostriction delay lines, fixed memory systems, high resolution CRT display tubes, viscometers, moire fringing systems, machine tool control systems, traffic control systems / S 16,000 / E 1896
- Ferranti Electronics, Div. of Ferranti-Packard Electric Ltd., Industry St., Toronto 15, Ont., Canada / 416-762-3661 / *C 64
- FP6000 general purpose computers, special purpose computers (process control, reservation systems), magnetic memory drums, photoelectric paper tape readers, magnetic module displays, and business data processing systems / S 450 / E 1912
- Ferranti, Ltd., Manchester, Lancashire & Bracknell, Berkshire, England / Failsworth 2071 or Bracknell 2020 / *C 65
- Real time digital computers and data handling systems / S over 5000 / E 1882
- Ferroxcube Corp. of America, Old Kings Highway, Saugerties, N.Y. / 914-246-2811 / *C 65
- Ferrite cores, including pot cores and micro-miniature toroids with square hysteresis loop; thermistors, varistors, light-dependent resistors, ceramic permanent magnets; recording head poles and assemblies, positive temperature coefficient resistors, peltier batteries; memory arrays and memory systems / S 812 / E 1949
- Fischer & Porter Co., County Line Rd., Warminster, Pa. / Osborne 5-6000 / *C 65
- Industrial and military data acquisition equipment. Digital computer process control. Multiple pressure measuring systems. Vehicular traffic data recorders and systems. Meteorological data recorders and systems. Electronic integrator / S 15,000 / E 1937
- Floating Floors, Inc. (subsidiary of National Lead Co.), 22 E. 42 St., New York, N.Y. 10017 / 212-YU 6-9050 / *C 65
- Raised flooring, site environmental systems, cable duct systems, consulting services / S over 100 / E 1958
- Dr. Ivan Flores, 931 President St., Brooklyn 15, N.Y. / — / *C 65
- Consulting services / S ? / E ?
- FMA, Inc., 142 Nevada St., El Segundo, Calif. / 213-EA 2-0072 / *C 64
- Information storage and retrieval systems / S 250 / E 1959
- Forbes and Wagner Inc., Silver Creek, N.Y. / — / *C 64
- Delay lines / S ? / E ?
- The Foxboro Co., 38 Neponset Ave., Foxboro, Mass. 02035 / 617-543-9750 / *C 65
- Process computer systems, data logging and alarming computers, alarm scanners, computer set point stations / S 3000 / E 1903
- FRANKLIN ELECTRONICS INC., Div. of Anelox Corp., E. 4th St., Bridgeport, Pa. 19405 / 215-272-4800 / *C 65

High speed digital printers / S 850 / E 1951
- Friden, Inc., a Subsidiary of The Singer Co., 2350 Washington Ave., San Leandro, Calif. 94577 / 415-357-6800 / *C 65
- Data processing and data collecting systems, including: Flexowriter* automatic writing machine; Collectadata* data collection; 6010 electronic computer, small scale, solid state; Computypex* writing/computing machine, Model CTP; Teledata* data transmitter/receiver; Selectadata* selective reader; Code Converter; Add-Punch* adding machine/tape punch; remote-controlled input-output devices and printers; special Flexowriter writing machines. Equipment for reading, punching, verifying, converting, regenerating, and transmitting paper tape, edge-punched cards, or tabulating cards. Supplies used with data processing equipment. Adding machines. Automatic desk calculators. *A Trademark of Friden, Inc. / S 11,600 / E 1934
- G
- G-E Communication Products Dept., Lynchburg, Va. /

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- 703-VI 6-7311 / *C 65
TDS-91 Data Communications / S ? / E ?
- General Atronic Corp., 1200 E. Mermaid Lane, Philadelphia, Pa. 19118 / 215-248-3700 / *C 65
Automatic sorting, routing and control systems and devices / S 210 / E 1955
- General Computers, Inc., 5990 W. Pico Blvd., Los Angeles, Calif. 90035 / 213-939-7687 / *C 65
Analog computers, card programmed function generators, amplifiers, DC operational amplifiers, chopper amplifiers, self powered operational amplifiers / S 25 / E 1957
- General Devices, Inc., P.O. Box 253, Princeton, N.J. 08540 / 609-WA 4-2500 / *C 65
Electromechanical and solid state commutators for computers; multiplexers; amplifiers, SCO's power supplies A/D & D/A converters / S 65 / E 1953
- General Dynamics/Electronics, 1400 North Goodman St., Rochester, N.Y. 14601 / 716-FI 2-8000 / *C 64
Digital computers, process control computers, statistical analog computers, data transmission systems, data logging systems / S 4000 / E 1894
- General Dynamics/Electronics, 3302 Pacific Highway, P.O. Box 127, San Diego 12, Calif. / 714-298-4641 / *C 64
Computer readout devices, high speed electronic printers, high speed communications printers, microfilm recorders, plug-in and potted circuits, digital devices for display of computer information, input and visual output devices (the CHARACTRON® shaped beam tube), facsimile systems / S 1200 / E 1955
- General Electric Co., Capacitor Dept., P.O. Box 158, Irmo, S.C. 29063 / 803-253-3830 / *C 65
Capacitors for computers / S 750 / E 1898
- General Electric Co., Capacitor Dept., John St., Hudson Falls, N.Y. / 518-747-3341 / *C 64
Capacitors for computer circuitry and power supplies / S 1100 / E 1878
- General Electric Co., Computer Dept., 13430 N. Black Canyon Highway, Phoenix, Ariz. 85001 / 602-941-2900 / *C 65
GE-115, 205, 215, 225, 235, 415, 425, 435, 625, 635. Complete data-processing systems, including full line of peripherals. Computer services offered non-computer customers through six Information Processing Centers in major metropolitan areas / S 4400 / E 1956
- General Electric Co., Electric Utility Sales Operation, 1 River Rd., Schenectady 5, N.Y. / 518-374-2211 / *C 63
Computer automation systems for steam-electric generating plants for data processing, sequence control and optimization of the operating cycle; analog and digital computer systems for electric power systems and dispatching applications / S ? / E 1892
- General Electric Co., Electronic Components Sales Operation, 316 E. 9th St., Owensboro, Ky. 42301 / 502-683-2401 / *C 65
Sells electronic components and devices to electric and electronic product manufacturers. Capacitors, controls, electronic and microwave tubes, frequency converters, indicating lights, integrated circuits, inverters, magnetic amplifiers, magnetic materials, measuring and testing instruments, micromodules, panel meters, photocells and photoelectric devices, power supplies, push buttons, recording instruments, rectifiers, relays, semi-conductor assemblies, telemetering systems, terminal boards, timing devices, transformers, transistors, and voltage regulators / S 250,000 (total company) / E 1892
- General Electric Co., Industrial Sales Operation, 1 River Rd., Schenectady 5, N.Y. / 518-374-2211 / *C 63
Computer control systems for integrated plant automation and for control of specific industrial processes in: blast furnaces and all iron and steel making plants, cement, mills, chemical and petro-chemical plants, metal rolling and processing plants, oil, gas and product gathering and transmission lines, petroleum refineries, pulp and paper mills, etc. / S ? / E 1892
- General Electric Co., Laminated Products Dept., Coshocton, Ohio / MAIN 2-5310 / *C 65
Flooring for free-access floors / S 700 / E ?
- General Electric Co., Radio Guidance Operation, Northern Lights Office Bldg., Syracuse, N.Y. 13201 / — / *C 64
Military surface based members of the compatibles/600 computers / S ? / E 1963
- The General Fireproofing Co., E. Dennick Ave., Youngstown, Ohio 44501 / 216-746-7271 / *C 65
Data processing accessory equipment / S 2600 / E 1902
- General Instrument Corp., 600 W. Johns St., Hicksville, L.I., N.Y. / 516-0V 1-8000 / *C 64
Semiconductors / S 1375 / E 1954
- General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div., Andrews Rd., Hicksville, N.Y. 11802 / 516-0V 1-4300 / *C 65
General and special purpose computational and data processing systems and equipment utilizing conventional modular and/or microelectronic packaging / S 9000 / E 1922
- General Instrument Corp., Systematics and Wagne-Head Div., 13040 S. Cerise Ave., Hawthorne, Calif. 90250 / 213-679-3377 or 772-2351 / *C 65
Magnetic tape and drum heads, magnetic drums, and perforated tape and card peripheral devices / S 9225 / E 1923
- General Precision, Inc., Librascope Group, 808 Western Ave., Glendale, Calif. / 213-245-8711 / *C 65
Military computers and data-processing systems; mass memories; peripheral computer disc memories; optical systems; encoders / S 2000 / E 1937
- General Radio Co., 22 Baker Ave., W. Concord, Mass. 01781 or EM 9-4400 / *C 65
Electronic measuring and test instruments, including frequency counters, digital-to-analog converters, and printers / S 1000 / E 1915
- Geo Space Corp., 5803 Glenmont Drive, Houston, Tex. 77036 / 713-MO 6-1611 / *C 65
Geophysical data processing equipment / S 430 / E 1957
- The Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex. 75040 / 214-278-8102 / *C 65
Slow-speed, low-frequency analog magnetic tape recorder/reproducers / S 650 / E 1936
- The Gerber Scientific Instrument Co., P.O. Box 305, Hartford 1, Conn. / 203-289-2731 / *C 65
Digital plotting systems, automatic drafting machines, machines tool tape verifiers / S 100 / E 1948
- Giannini Controls Corp., 1600 S. Mountain Ave., Duarte, Calif. 91010 / 213-681-2311 / *C 65
Data acquisition devices, encoders, numerical controls; measurement and control devices; instruments; timing devices; ultrasonic devices; nucleonic devices / S 2000 / E 1945
- Giannini Scientific Corp., Richmond Div., P.O. Box 1-F, Richmond, Va. 23201 / 703-737-4163 / *C 65
Special photographic film transports to meet systems design coupled with standard line for many applications. Shaft encoder designed for industrial automation / S 57 / E 1959
- Gilmore Industries, Inc., 3355 Richmond Rd., Cleveland 22, Ohio / 216-464-1200 / *C 64
Electronic control and data handling equipment; scanners, analog to digital converters, force instrumentation, transducer instrumentation, card to magnetic tape and paper tape converters, data loggers, automatic controls and equipment / S 80 / E 1953
- Golding Manufacturing Co., 90 Porete Ave., No. Arlington, N.J. 07032 / 201-998-1805 / *C 64
Sheet metal fabrications to order, i.e. computer cabinets, frames, racks, panels, chassis / S 25 / E 1950
- GPL Div., General Precision, Inc., 63 Bedford Rd., Pleasantville, N.Y. / 914-RO 9-5000 / *C 64
Data retrieval closed circuit television / S 1200 / E 1945
- GPS Instrument Co., Inc., 188 Needham St., Newton, Mass. 02164 / 617-969-9405 / *C 65
High-speed, high-accuracy repetitive analog computers, statistical and iterative types; computer center and services rental; computer components, function and noise generators, multiplier/divider, etc. / S 38 / E 1955
- Graphic Controls Corp., 189 Van Rensselaer St., Buffalo, N.Y. 14210 / 853-7500 / *C 65
GC data processing forms; continuous, manifold data processing forms / S 360 / E 1957
- H. J. Gruy & Associates, Inc., 2501 Cedar Springs Rd., Dallas, Texas 75201 / 214-RI 7-1621 / *C 65
1620 II/1443/1311 computer service with consulting engineering staff oriented toward petroleum industry / S 75 / E 1959
- Gulton Industries, Inc., 212 Durham Ave., Metuchen, N.J. / 201-548-2800 / *C 64
Cables and connectors, capacitors, circuit boards, computing services, digital logic modules, data acquisition and reduction systems, recorders, scanners, telemetering systems, thermistors, test equipment, transducers, tape editors, amplifiers, magnetic amplifiers / S 1850 / E 1945
- The GYREX Corp., 3003 Pennsylvania Ave., Santa Monica, Calif. / 213-EXbrook 3-0462 / *C 65
Computer input systems (high speed data processors); time and frequency standards and control systems; pulse generators and time markers / S 30-35 / E 1956

H

- Haddonfield Research & Manufacturing Co., 121 Gill Rd., Haddonfield, N.J. 08033 / 609-429-9218 / *C 65
Production of ferrite products used in the memory area, memory systems, and consultation in ferrite magnetics / S 10 / E 1962
- Hagan Controls Corp., a subsidiary of Westinghouse, 250 Mt. Lebanon Blvd., Box 11606, Pittsburgh, Pa. 15228 / 412-563-6120 / *C 65
Data processors, analog computers, servo mechanisms, automatic control machinery / S 413 / E 1918
- Halbrecht Associates, Inc., 4977 Battery Lane, Bethesda, Md. 20014 / 301-656-9170 / *C 65
Personnel consulting, recruiting and placement in EDP fields (software, engineering and management), operations research, management sciences, mathematics / S 10 / E 1957
- Hammarlund Manufacturing Co., 53 W. 23rd St., New York 10, N.Y. / YU 9-2200 / *C 63
Digital and analog data transmission equipment for wire lines, coaxial cable and microwave. Analog-to-digital converters, shaft encoders and other peripheral equipment. HF, HF, VHF and UHF radio transmission equipment. Coaxial

- cable data transmission system components / S 500 / E 1910
- Hammond Manufacturing Co., Ltd., 394 Edinburgh Rd., N., Guelph, Ontario, Canada / 519-822-2960 / *C 65
Transformers, chokes, reactors, and other iron core components, metal panels, racks and cabinetry / S 275 / E 1927
- Philip Hankins & Co., Inc., 800 Massachusetts Ave., Arlington, Mass. 02174 / 617-648-2330 / *C 65
Computer consulting, software development and programming / S 35 / E 1959
- Philip Hano Co., Inc., 85 Sargeant St., Holyoke, Mass. / 413-JEFFerson 3-7141 / *C 65
Continuous forms marginally punched, including custom, standard, stock tab and tab imprints. All lithographed / S ? / E ?
- Harman Kardon, Inc. - name changed to The Roback Corp., which see
- Hathaway Instruments Inc., 5800 E. Jewell Ave., Denver, Colo. 80222 / Skyline 6-8301 / *C 64
Commutators, rotary stepping switches, audio response plotter, diode switches, diode relays / S 400 / E 1940
- Hayden Book Co., 116 W. 14th St., New York, N.Y. 10011 / 212-OR 5-5020 / *C 65
Technical books on programming, management, devices and systems / S 75 / E 1934
- The A. W. Hayden Co., 232 No. Elm St., Waterbury, Conn. 06720 / 203-756-4481 / *C 65
Electromechanical and electronic time code generators and systems; stepping motors, devices and systems; timing motors, devices and systems / S 460 / E 1946
- Heath Co., Benton Harbor, Mich. / 616-YU 3-3961 / *C 65
Educational analog computer / S 575 / E 1946
- Hewlett-Packard, 1501 Page Mill Rd., Palo Alto, Calif. 94304 / 415-326-7000 / *C 65
Design and manufacture of general purpose electronic test equipment including electronic counters, digital recorders, frequency synthesizers, digital to analog converters, pulse generators, oscilloscopes, sampling oscilloscopes, switching time testers, electronic voltmeters, clamp-on dc milliammeters, oscillators, audio signal generators, microwave sweep oscillators and signal generators, microwave power and SWR meters, wave guide and coaxial equipment, data acquisition systems, X-Y recorders, strip-chart recorders, magnetic tape recording systems, multi-channel recording systems / S 7300 / E 1939
- The Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland 8, Ohio / 216-541-8060 / *C 64
Card programmed multiple contact switches (Cardmatic) / S 450 / E 1910
- S. Himmelstein & Co., 6015 North Ridge Ave., Chicago 26, Ill. / 312-465-6022 / *C 63
Design engineering services. Magnetic recording systems and computer peripheral equipment development / S 10 / E 1960
- Hoffman Electronics Corp., Semiconductor Div., Hoffman Electronic Park, El Monte, Calif. 91734 / 686-0123 / *C 65
Photoelectric tape and card readers; semiconductor devices including diodes, regulators, temperature compensated reference devices / S 429 / E 1941
- Hogan Faximile Corp., 635 Greenwich St., New York 14, N.Y. / 212-CH 2-7855 / *C 64
High speed printer-plotters and event recorders / S 65 / E 1929
- Allen Hollander Co., Inc., 385 Gerard Ave., Bronx, N.Y. 10451 / 212-MO 5-1818 / *C 65
Pinfeed labels for computer applications / S 100 / E 1947
- Hollander Associates, P.O. Box 2276, Fullerton, Calif. 92633 / 714-LA 5-8777 / *C 65
Design and consulting in general and special purpose computers and their application to business, control, communications switching, and defense; including technical liaison overseas. Research on methodologies for system design and optimization / S 9 / E 1961
- Holley Computer Products Co., 11955 E. Nine Mile Rd., Warren, Mich. / 313-JE 6-1900 / *C 64
Line printers / S 80 / E 1962
- Honeywell, Denver Div., 4800 E. Dry Creek Rd., Denver, Colo. 80217 / 303-771-4700 / *C 65
Incremental digital magnetic tape recorders / S 1000 / E 1886
- Honeywell Electronic Data Processing Div., 60 Walnut St., Wellesley Hills, Mass. 02181 / 617-CE 5-7450 / *C 65
Business and scientific data processing systems and related peripheral devices / S 5000 / E 1955
- Honeywell, Aeronautical Div., Florida Facility, 13350 U.S. Highway 19, St. Petersburg, Fla. 33733 / 525-1121 / *C 64
Airborne digital general purpose and digital differential analyser high speed computers, memory drums, buffer memory systems, digital encoders, pulse generators, SCR switches / S 4000 / E 1875
- Honeywell, Special Systems Div., Queen & So. Bailey Sts., Pottstown, Pa. 19464 / 215-323-4000 / *C 65
General purpose digital computers for on-line real time applications, special purpose analog computer systems, MGF, programming, and maintenance of these systems / S 350 / E 1958
- The Hoover Co., Electronics Div. - name changed to Novatratics, Inc. which see
- Houston Fearless Corp., 11801 W. Olympic Blvd., Los Angeles, Calif. 90064 / 213-272-4331 / *C 65

Roster of Organizations

- Data monitoring devices, information storage/ retrieval systems, microfilm processors / S 761 / E 1943
- HRB Singer, Inc., Science Park, Box 60, State College, Pa. 16801 / 814-237-7611 / *C 64
Methods and equipment which comprise information services / S 1080 / E 1946
- Hughes Aircraft Co., Ground Systems Group, P.O. Box 3310, Fullerton, Calif. / 871-3232 / *C 64
Digital data processing systems, general purpose computing systems, materials development, electronic display systems, microelectronics / S 7000 / E 1956
- Hughes Aircraft Co., Semiconductor Div., 500 Superior Ave., Newport Beach, Calif. / 714-LI 8-0671 or 714-WA 9-3271 / *C 64
Silicon and germanium diodes, micro-miniature diodes and transistors, silicon, transistors, silicon power rectifiers, packaged assemblies, micro weld modules, voltage regulator diodes / S 1500 / E 1951
- Hughes Aircraft Co., Vacuum Tube Products Div., 2020 Oceanside Blvd., Oceanside, Calif. / 722-2101 / *C 64
Direct view storage tubes / S 400 / E ?
- Hughes Dynamics, Inc., 10889 Wilshire Blvd., Los Angeles 24, Calif. / 477-2531 / *C 63
Operations research, total information systems design, implementation and operation, computer programming and operations, project management systems, integrated system management, market research, new product planning, software design and programming, education and training in management sciences / S 100 / E 1962
- I
- Image Instruments, Inc., 2300 Washington St., Newton Lower Falls, Mass. 02162 / 617-969-8440 / *C 65
Single-gun and dual-gun recording storage tube systems, scan converters, computer data display storage, and system proven modules / S 12 / E 1958
- IMC Magnetics Corp., Western Div., 6058 Walker Ave., Maywood, Calif. / 213-LUdow 3-4785 / *C 65
Linear and rotary solenoids, step-servo motors, synchros, resolvers, digital to shaft angle converters / S 150 / E 1946
- Indiana General Corp., Electronics Div., Keasbey, N.J. / 201-VA 6-5100 / *C 64
Memory products: ferrite cores, memory cores, memory planes, stacks and systems / S 600+ / E 1908
- Inductor Engineering, Inc., 117 Schley Ave., Lewes, Del. 19958 / 302-645-6251 / *C 65
Magnetic amplifiers, transformers, toroids, electronic filters, pulse transformers, converters / S 25 / E 1956
- Industrial Control Co., Central Ave. at Pinelawn, E. Farmingdale, L.I., N.Y. 11735 / 516-MY 4-3000 / *C 65
Servo multipliers, function generators, servo digitizers / S 25 / E 1949
- Industrial Electronic Engineers, Inc., 7720 Lemona Ave., Van Nuys, Calif. 91405 / 213-787-0311 / *C 65
Rear-projection readout devices for data display; front plug-in readouts; Bina-View binary input, self-decoding readouts; Cue-Switch readouts; status indicators / S 150 / E 1945
- Industrial Nucleonics Corp., 650 Ackerman Rd., Columbus, Ohio 43202 / 614-267-6351 / *C 65
AccuRay industrial process measurement and automatic control systems, data reduction and readout systems for paper, plastics, metal and other industries / S 550 / E 1950
- INFORMATICS, INC.**, 15300 Ventura Blvd., Suite 500, Sherman Oaks, Calif. 91403 / 213-783-7500 / *C 65
Digital computer programming, system analysis, system design, consulting; technical communications, construction project management services (including critical path method) / S 150 / E 1962
- Information Displays, Inc., 102 E. Sandford Blvd., Mt. Vernon, N.Y. 10550 / 914-OW 9-5515 / *C 65
Computer controlled character writing CRT display system / S 40 / E 1945
- Information Dynamics Corp., 80 Main St., Reading, Mass. 01867 / 617-944-2224 / *C 64
Consulting services. Solution of information handling problems, basic network design and synthesis; mathematical modelling; computer programming and data processing. Formal disciplines and methodology in areas of pure and applied mathematics; automated typesetting; computer program design; EDP Systems applications; indexing; information processing systems, information distribution systems; library science; microfilm and applied photography; operations research; test and evaluation / S 24 / E 1960
- Information For Industry, Inc., 1000 Connecticut Ave., N.W., Washington 36, D.C. / 202-296-4936 / *C 64
Magnetic tape searching capabilities; information retrieval devices / S 40 / E 1955
- Information International, Inc., 200 Sixth St., Cambridge, Mass. / 617-868-9810 / *C 65
Research and consulting in the computer sci-
- ences. Computer reading of scientific data recorded on film. Display techniques for analysis of scientific data / S 15 / E 1961
- Information Products Corp., Subsidiary of Remwell Industries, New Ludlow Rd., So. Hadley Falls, Mass. / 413-536-1800 / *C 64
Random access file interrogators, computer input and display equipment, data editing equipment / S ? / E ?
- Information Retrieval Corp., 1000 Connecticut Ave., N.W., Washington, D.C. 20036 / 202-296-4936 / *C 64
Information retrieval devices; information services, and information engineering / S 20 / E 1961
- Infotran, Inc., 860 Fifth Ave., New York, N.Y. 10021 / 212-LE 5-7724 / *C 65
Consultants on special purpose computers, data processing and data communications systems / S 4 / E 1964
- Instrument Development Labs., Div. of Kollmorgen Corp., 67 Mechanic St., Attleboro, Mass. 02703 / 617-222-3880 / *C 64
Encoders / S 60 / E 1947
- Instrument Systems Corp., 111 Cantiague Rd., Westbury, L.I., N.Y. / 516-WE 8-8000 / *C 64
Analog magnetic storage drums, hall effect devices, tape heads, controls, multipliers, servo mechanisms, counters, amplifiers / S 350 / E 1960
- Intectron, Inc., 2300 Washington St., Newton Lower Falls, Mass. 02162 / 617-969-9311 / *C 65
Microphotometric instruments, granularity computer, analog multiplier, optical correlation analyzer, optical Fourier transformer, analog computers / S 10-20 / E 1960
- Intercontinental Instruments Inc., 123 Gazza Blvd., Farmingdale, N.Y. / 516-MY 4-6060 / *C 64
Digital logic elements, pulse and square wave generators, low frequency spectrum analyzers, digital system development / S 18 / E 1962
- Interelectronics Corp., U.S. Route 303, Congers, N.Y. 10920 / 914-ELmwood 8-6000 / *C 64
MIL environmental test facilities, fully-automated print-out test equipment, automated magnetic core component treatment processing / S ? / E ?
- International Business Machines Corp., Data Processing Div., 112 E. Post Rd., White Plains, N.Y. 10601 / 914-WH 9-1900 / *C 64
Complete line of data processing systems and equipment, including the IBM System/360, the IBM RAMAC 305 (model 2), 1401-G, 1401, 1440, 1460, 1410, 1620, 1620 (model 2), 7010, 7040, 7044, 7070, 7072, 7074, 7080, 7090, 7094, 7094 II data processing systems; 7700 data acquisition system; 1420 bank transit system; 1240 bank data processing system; 1062 teller terminal; 1230 optical mark scoring reader; 1231 optical mark page reader; 1282 optical reader card punch; 1418 optical character reader; random access disk and drum storage units; 7770 audio response unit; 1070 process communication system, 2321 data cell drive; 1015 inquiry display terminal; 2250 display console; 2671 paper tape reader; 1710 control system; magnetic character inscribing and sensing equipment; airline reservations systems; Tele-processing devices and systems including data collection and transmission equipment; Hypertape; mark sensing equipment; and a full line of punched card equipment, including the low-cost Series 50 line. Also printers, Micro-processing, punched cards, magnetic tape, magnetically encoded paper checks and other supplies used with data processing equipment / S 116,000 / E 1911
- International Business Machines Corp., Federal Systems Div., 326 E. Montgomery Ave., Rockville, Md. / 301-GA 4-6700; 301-HA 7-4110 / *C 64
Electronic information handling and control systems for U.S. government space, defense, and civil programs. Systems management, systems development, research, engineering, production, installation, and field support / S ? / E 1955
- International Computers and Tabulators, Ltd., I.C.T. House, Putney, London S.W. 15, England / Putney 7272 / *C 65
Punched card equipment and electronic digital computers, card to paper tape converters, paper tape to card converters, data collection and recording equipment, magnetic drums, input-output devices, memory systems, office equipment, line-a-time high speed printers, magnetic character, paper tape and punch card readers, magnetic tape filing systems, readers, and recorders / S 20,000 / E 1959
- International Data Corp., 355 Walnut St., Newtonville, Mass. 02160 / 617-332-8840 / *C 65
Market research and publishing activity in computer field / S 10 / E 1964
- International Diode Corp., 90 Forrest St., Jersey City 4, N.J. / 201-432-7151 / *C 64
Germanium crystal computer diodes with high switching speeds / S 16 / E 1959
- INTERNATIONAL ELECTRO-MAGNETICS, INC.**, Eric Drive & Cornell Ave., Palatine, Ill. 60067 / 312-358-4622 / *C 65
Magnetic record, playback and erase heads for computers, telemetering, data recording, video and audio equipment / S 25 / E 1959
- International Electronic Research Corp., 135 W. Magnolia Blvd., Burbank, Calif. / Victoria 9-2481 / *C 65
Design application engineering; function generators and transformers / S 450 / E 1951
- International Rectifier Corp., 233 Kansas St., El Segundo, Calif. / 213-OR 8-6281 / *C 65
Complete line of general purpose silicon diodes, zener voltage regulator diodes, silicon controlled rectifiers, silicon readout photocells / S 1050 / E 1947
- International Resistance Co., 401 N. Broad St., Philadelphia, Pa. 19108 / 215-WA 2-8900 / *C 65
Resistors (composition, film, power and precision wire wound and special application); potentiometers, displacement transducers; low pressure cell; rectifiers; pressure transducers, diodes, frequency and time standards / S 2500 / E 1927
- International Telephone & Telegraph Corp. (ITT Industrial Laboratories Div.), 3700 E. Pontiac St., Fort Wayne, Ind. / 743-7571 / *C 64
Cameras, automatic processing controls, digital to graphic computers, television type facsimile equipment, information (image) retrieval devices, visual input and output devices / S ? / E ?
- Itek Corporation, 10 Maguire Rd., Lexington 73, Mass. / 617-862-6200 / *C 65
Research, development and manufacture of digital computers, graphic to digital converters, information retrieval devices, mass memory systems, high speed printers, film readers, scanners, translating equipment, and visual output devices / S 2100 / E 1957
- ITI Electronics, Inc., 369 Lexington Ave., Clifton, N.J. / — / *C 65
IT-271 remote cathode-ray indicator; IT-284 high level video amplifier; IT-277 large screen cathode-ray indicator; custom manufacturing / S ? / E ?
- The ITT Data Processing Center (ITT Data and Information Systems Div.), P.O. Box 285, Paramus, N.J. / CO 2-8700 / *C 64
Complete range of professional EDP services specializing in real time programming, system analysis, operations research, simulation and programming; services supported by IBM 7094, 1401s, data transmission, plotting, 250 programmers; computer time available on hourly or repetitive basis / S ? / E 1961
- ITT Data and Information Systems Div., P.O. Box 285, Paramus, N.J. / CO 2-8000 / *C 64
Management and information control system; design and implementation of computer oriented information systems, management and command control systems for military, industrial and government organizations / S 1600 / E 1958
- ITT Federal Laboratories, a div. of International Telephone and Telegraph Corp., 500 Washington Ave., Nutley, N.J. 07110 / 201-284-0123 / *C 65
Medium and large scale real time data processors for on-line applications; ITT 025 data processor, ITT 525 Versatile Automatic Data Exchange / S ITT, 173,000; ITTFL, 5,000 / E 1920
- ITT General Controls, 801 Allen Ave., Glendale, Calif. 91201 / 213-842-6131 / *C 65
Automatic controls for product or process. Counters and counting devices, actuators, magnetic valves, Hydramotor[®] electrohydraulic valves and actuators, industrial controls and instruments, mercury switches, Klikswitch[®] snap-acting switches, time switches (sequency), transformer-relays, contactors, limit controls (temperature) / S 3000 / E 1930
- J
- Janus Control Corp., 50 Hunt St., Newton, Mass. 02158 / 617-926-2670 / *C 65
Electronic decade counters and displays / S 30 / E 1963
- Jay-El Products, Inc., 1859 W. 169th St., Gardena, Calif. 90247 / 213-323-7130 / *C 65
Illuminated push button switches, indicator lights, time delays, time delay relays, flashers, color coated lamps / S 45 / E 1956
- JB Electronic Transformers Inc., 2310 W. Armitage Ave., Chicago, Ill. 60647 / 312-276-0444 / *C 65
Computer components / S 100 / E 1959
- Jonker Business Machines, Inc., 26 N. Summit Ave., Gaithersburg, Md. / 948-9440 / *C 64
Termatrex and Minimatrex information and data retrieval equipment and information services, including consulting, indexing and abstracting / S 42 / E 1958
- K
- Kearfott Div., General Precision, Inc., Aerospace Group, 1150 McBride Ave., Little Falls, N.J. 07424 / 201-CL 6-4000 / *C 65
Mag-amps, analog & digital computers, A-D & D-A converters, ferrite cores and mag. recording/reading heads, mech. filters, resolvers, synchros, servomechanisms, servo amplifiers, computer components, EL indicators w/logic circuits / S 6000 / E 1917
- George Kelk Ltd., 5 Lesmill Rd., Don Mills, Ont. / — / *C 64
Stedivolt A.C. line voltage regulator, digital divider, digital temper mill extensometer, pulse tachogenerator, shaft position coder / S ? / E ?

Roster of Organizations

Walter Kidde & Co., Inc., Aerospace Div. — see Douglas Randall, Inc., a subsidiary of Walter Kidde & Co., Inc.

A. Kimball Co., Div. of Litton Industries — name changed to Kimball Systems, Inc. — Div. of Litton Industries, which see

Kimball Systems, Inc., Div. of Litton Industries, 215 Daniel St., Farmingdale, N.Y. 11735 / 516-MYrtle 4-7300 / *C 65
High-speed punched tag reader, PM "75" machine, hard pack / S 450 / E 1876

Kinologic Corp., 29 S. Pasadena Ave., Pasadena, Calif. 91101 / 213-684-0434 / *C 64
Design, develop and manufacture special purpose magnetic recording equipment and systems; electronic, electromechanical, and mechanical instrumentation components and systems (all types except RF); and belts, seamless mylar. Theoretical studies involving same / S 30 / E 1950

Kleinschmidt Div., SCM Corp., Lake-Cook Rd., Deerfield, Ill. 60015 / 312-945-1000 / *C 65
Communications and data processing hardware, including high- and medium-speed printers, tape perforators, and systems / S ? / E ?

Kollmorgen Corp., 347 King St., Northampton, Mass. / 413-JU 4-0280 / *C 64
Direct drive torque motors for tape transport, tachometers, and high speed switches for telemetering, commutating, multiplexing, computing, sampling, programming / S 700 / E 1916

Kurman Electric Co., Div. of Kurman Instruments Corp., 191 Newell St., Brooklyn, N.Y. 11222 / 212-EV 3-8000 / *C 64
Computer components, relays / S 90 / E 1928

L

Lavoie Laboratories, Inc., Matawan-Freehold Rd., Morganville, N.J. 07751 / 201-566-2600 / *C 64
Robotester, tape programmed automatic test set / S 500 / E 1940

Leach Corp., 405 Huntington Drive, San Marino, Calif. / 682-3506 / *C 64
Manufacture electronic, electro-mechanical components and systems, data recording equipment and systems, telemetry equipment / S 1000 / E 1919

Lear Siegler, Inc., Power Equipment Div., P.O. Box 6719, Cleveland, Ohio 44101 / 216-662-1000 / *C 65
Magnetic particle clutches, / S 1710 / E 1950

Ledex Inc., 123 Webster St., Dayton, Ohio 45402 / 513-224-9891 / *C 65
Research, development, design, and production of remote switching and actuating components and subsystems, such as intervalometers, automatic checkout, mode selectors, programmers, sequence controls, positive/negative circuit searching, pulsing devices, guidance control, power transfer, switching and/or actuating subsystems to meet extreme environments. Standard products include: rotary and medium stroke linear solenoids, protected silicon bridge rectifiers, transient controls, stepping and servostep motors, open and hermetically sealed switches for multi-circuit switching, arc suppressors / S 340 / E 1942

Leeds & Northrup Co., 4901 Stanton Ave., Philadelphia, Pa. 19144 / 215-DA 9-4900 / *C 65
Analog and digital computers for industrial process applications; also data loggers for industrial use / S 3000 / E 1900

Lenkurt Electric Co., Inc., 1105 County Rd., San Carlos, Calif. 94070 / 415-591-8461 / *C 65
Microwave, multiple and data transmission systems / S 2500 / E 1943

LFE Electronics Div., Laboratory for Electronics, Inc., 1075 Commonwealth Ave., Boston, Mass. / — / *C 64
Guestron, billing and accounting machine / S ? / E ?

Librascope Group, General Precision, Inc. — see General Precision, Inc., Librascope Group

Licon Div., Illinois Tool Works Inc., 6615 W. Irving Park Rd., Chicago, Ill. 60634 / 312-AV 2-4040 / *C 65
Full line of pushbutton snap-action switches, illuminated pushbutton switches, environment-free switches / S 150 / E 1955

Link Group, General Precision, Inc., Systems Div., Binghamton, N.J. 13902 / 607-RA 3-9311 / *C 65
GP-4 digital computer, wave-form display analyzer, and graphic display systems / S 2900 / E 1935

Edwin A. Lipps Engineering — name changed to Lipps, Inc., which see

Lipps, Inc., 1630 Euclid St., Santa Monica, Calif. 90403 / 213-EX 3-0449 / *C 65
Magnetic recording heads / S 40 / E 1947

Liskey Aluminum, Inc., Box 580, Glen Burnie, Md. 21061 / 301-796-3300 / *C 65
Computer-room free-access flooring: "ELAFLOOR", extruded aluminum, die cast aluminum, steel-armored plywood and steel panels on aluminum or steel support stringers, and also on stringer-less systems; "DATA-AIRE", modular environmental control systems for EDP installations; "SPACEMAKER", movable aluminum partition systems for EDP installations / S 200 / E 1958

Lockheed Electronics Co., Route 22, Plainfield, N.J. 07061 / 201-PL 7-1600 / *C 64
Printed circuit boards, ceramic cores, memory devices, magnetic heads, transducers, instrumentation recorders (tape) / S 2500 / E 1945

LOCKHEED ELECTRONICS CO., AVIONICS AND INDUSTRIAL PRODUCTS DIV., 6201 E. Randolph St., Los Angeles, Calif. 90022 / 213-722-6810 / *C 65

Ferrite memory products, including basic memory cores in standard and wide temperature materials, multi-aperture devices, memory stack assemblies (commercial and military), and complete memory systems for both commercial and military (ground and airborne) applications with emphasis on high-speed systems / S 500 / E 1959

Logitek, Inc., 42 Central Drive, Farmingdale, L.I., N.Y. 11735 / 516 MY 4-3080 / *C 65
Time code generators, translators, sequencers, programmers / S 50 / E 1961

Loral Electronic Systems, a division of Loral Corp., 825 Bronx River Ave., Bronx, N.Y. 10472 / TI 2-9500 / *C 65
Special purpose digital and analog computers / S 2255 / E 1948

M

Mace Corp., 900 N.E. 13th St., Ft. Lauderdale, Fla. / JA 3-1438 / *C 64
Magnetic amplifiers, shift registers, pulse transformers, transformers all types, servo amplifiers / S 75 / E 1961

F. B. MacLaren & Co., Inc., 15 Stepar Pl., Huntington Station, L.I., N.Y. 11746 / 516-HAMilton 3-4433 / *C 65
Analog computers, servo systems, servo amplifiers, scanners / S 14 / E 1950

Mac Panel Co., 2060 Brentwood St., High Point, N.C. 27262 / 919-882-8138 / *C 65
Magnetic computer tape, control panels, wires, plugboard programming systems / S 100 / E 1958

Magnecraft Electric Co., 5575 N. Lynch Ave., Chicago, Ill. 60630 / 312-AV 2-5500 / *C 65
High speed relays for computers / S 125 / E 1951

Magnetic Aids, Inc., 11 W. 42nd St., New York 36, N.Y. / 212-CH 4-4661 / *C 64
Magnetic visual control boards for charting and scheduling, magnetic flow chart (Block diagram, PERT and critical path network) symbols / S 10 / E 1959

Magnetics Inc., Butler, Pa. / Butler 7-1745 / *C 64
Design, manufacture and sell high permeability bobbin cores, for computer shift registers and buffers. Other products: tape wound cores, permalloy powder cores, nickel laminations / S 385 / E 1949

F. L. Mannix & Co., Inc., Suite 1132, Park Square Bldg., Boston, Mass. 617-542-5033 / *C 65
Executive and technical placement in the field of data processing. Consultants in wage and salary programs; organization and personnel administration / S ? / E ?

Mardix, 1160 Terra Bella Ave., Mountain View, Calif. / — / *C 65
Video data systems / S ? / E ?

Massey Dickinson Co., Inc., 9 Elm St., Saxonville, Mass. 01706 / 617-877-2511 / *C 65
Programming and data acquisition equipment for behavioral, physiological, psychological, and visual research / S 25 / E 1957

Master Development Co., 2212 E. 12th St., Davenport, Iowa 52803 / 319-323-9729 / *C 65
Random access projectors / S 40 / E 1945

Mathatronics, Inc., 257 Crescent St., Waltham, Mass. 02154 / 894-0835 / *C 64
Mathatron desk-top, stored-program digital computer, strip printer / S 50 / E 1962

Mathematischer Beratungs- und Programmierungsdienst GmbH., Kleppingsstr. 26, Dortmund, Germany / 528697 / *C 65
Electrologica XI / S 65 / E 1957

Maxson Electronics Div., Sunrise Highway, Great River, L.I., N.Y. / 516-362-2000 / *C 64
Design, research, development, electronic, electromechanical systems and equipment for aviation, missile and ordnance application / S 847 / E 1935

Melcor Electronics Corp., 1750 New Highway, Farmingdale, N.Y. / 516-694-5570 / *C 65
Amplifiers and power supplies for analog computers / S 85 / E 1960

Mellonics Systems Development Div. of Litton Systems, Inc., 505 W. Olive Ave., Sunnyvale, Calif. 94086 / 408-245-0795 / *C 65
Systems engineering for computer applications, digital computer programming, engineering services, data processing feasibility studies, satellite systems, ground data handling networks, technical audio visual services / S 55 / E 1961

Memorex Corp., 1180 Shulman Ave., Santa Clara, Calif. 95052 / 408-248-3344 / *C 65
Magnetic tape / S 300 / E 1961

M-H Standard Corp., 400 Heaton St., Hamilton, Ohio 45011 / 513-894-7171 / *C 65
Palletflo and Versarack, components for computer controlled live storage racks / S 50 / E ?

Micro-Lectric, Inc., 19 Debevoise Ave., Roosevelt, L.I., N.Y. 11575 / 516-FR 8-3222 / *C 65
Precision wire-wound potentiometers, linear and non-linear, sine cosine / S 19 / E 1951

Micro Measurements Corp., 2412 Norwood, Melrose Pk., Ill. 60160 / 344-2046 / *C 64
Digital counters, timers, process control equipment, rotary transducers / S 15 / E 1961

Microsonics, Inc., 60 Winter St., Weymouth, Mass. 02188 / 617-337-4200 / *C 65
Delay lines memory systems up to 20 mc; quartz crystal computer clocks / S 50 / E 1957

Microspace, Inc., 170 S. Van Brunt St., Englewood, N.J. 07631 / 201-567-7454 / *C 65
Information discs, analog to digital conversion encoders, energy coupled encoder, visual read-out equipment, light sources / S 27 / E 1962

Micro Switch, A Div. of Honeywell, 11 W. Spring St., Freeport, Ill. 61033 / 232-1122 / *C 65
Precision snap-action switches, reed switches, mercury switches, lighted and unlighted push-button assemblies / S ? / E 1937

Microtran Co., Inc., 145 E. Mineola Ave., Valley Stream, N.Y. 11582 / 516-LOCust 1-6050 / *C 64
Industrial and military caliber thermometers / S 100 / E 1951

Midwestern Instruments, Inc., 41st and Sheridan Rd., P.O. Box 7509, Tulsa 18, Okla. / NATIONAL 7-1111 / *C 64
M3000 digital tape systems, analog and audio tape recorder/reproducers, facsimile recorders, recording oscillographs, servo components, telemetry systems and amplifiers / S 500 / E 1950

Milgo Electronic Corp., 7620 N.W. 36th Ave., Miami, Fla. 33147 / Oxford 1-1220 / *C 64
Data handling and instrumentation systems including computer peripheral and special purpose buffering and formatting equipment; plotting boards and special display systems; analog and digital conversion equipment; time code generators and timing distribution systems, analog computers, data transmission systems, missile countdown and sequencing systems; large scale, solid state, general purpose computers. Hybrid computation of simulation systems, digital computer on-line and magnetic plotting systems (graphic output units) / S 400 / E 1955

James Millen Mfg. Co., Inc., 150 Exchange St., Malden, Mass. 02148 / 324-4108 / *C 64
Computer components / S ? / E 1939

Mincom Div., Minnesota Mining and Manufacturing Co., 300 S. Lewis Rd., Camarillo, Calif. / 805-482-9851 / *C 64
Magnetic tape systems / S 600 / E 1949

Missouri Research Laboratories, Inc., 2109 Locust St., St. Louis, Mo. 63103 / 314-CH 1-7875 / *C 65
Decimal display computers, logic level translators / S 350 / E 1946

Mohawk Data Sciences Corp., P.O. Box 630, Herkimer, N.Y. 13350 / 315-866-6800 / *C 65
1101 keyed data-recorder, an entry/verify machine to transcribe original data directly to computer magnetic tape / S 60 / E 1964

Monarch Metal Products, Inc., MacArthur Ave., New Windsor, N.Y. 12551 / 914-562-3100 / *C 65
Data processing accessory equipment / S 85 / E 1945

Monroe International, Inc. Division, Litton Industries, 550 Central Ave., Orange, N.J. 07051 / 201-673-6600 / *C 65
Monrobot XI desk-sized electronic computer for scientific and business use, Monro-Card Processor for additional high-capacity storage. Electro-mechanical and electronic office machines / S ? / E 1912

Moog Servocontrols, Inc., Industrial Div., East Aurora, N.Y. / NL 2-0220 / *C 64
Servovalves and electrohydraulic servo systems for industrial applications / S 1300 / E 1951

Moore Associates, Inc., 893 American St., San Carlos, Calif. 94070 / 591-5363 / *C 65
Telemetering and data transmission systems / S 50 / E 1957

Moore Business Forms, Inc., Research Div., 1001 Buffalo Ave., Niagara Falls, N.Y.; Denton, Tex.; Emeryville, Calif.; Park Ridge, Ill.; Toronto, Ont.; Winnipeg, Manitoba / — / *C 65
Business forms and systems, data processing forms-systems, forms handling equipment / S 10,000 / E 1882

F. L. Moseley Co., 409 No. Fair Oaks, Pasadena, Calif. / SY 2-1176 / *C 64
X-Y recorders (with time base); strip chart recorders, logarithmic amplifiers, curve followers, computer accessories / S 300 / E 1951

The Mosler Safe Co., 320 Park Ave., New York, N.Y. 10022 / 212-PLaza 2-4500 / *C 65
Protection for data processing tapes, disk packs, etc., from fire, smoke, moisture; mechanized card files / S 2200 / E 1848

Motorola Semiconductor Products, Inc., 5005 E. McDowell Rd., Phoenix, Ariz. 85001 / 273-6900 / *C 65
Semiconductor products / S 6600 / E 1955

Ray Myers Corp., 1302 E. Main St., Endicott, N.Y. / PI 8-0424 / *C 65
Data processing accessory equipment. Systems development and production programs for input/output departments in data handling. Complete floor plan service / S 50 / E 1955

N

Nash and Harrison, Ltd., 1355 Wellington St., Ottawa 3, Ontario, Canada / 613-722-6544 / *C 65
Process control computers, shift registers, flip-flop, Schmitt trigger, switching amplifier modules. Digital converters of sheet velocity, etc. / S 12 / E 1957

Nat'l Engineering Co., Inc., 7129 Gerald Ave., Van Nuys, Calif. / ST 2-4161 / *C 65
AC, DC, frequency signal conditioning components

Roster of Organizations

for automatic controls, handling, monitoring and alarm systems / S 35 / E 1959

National Blank Book Co., Holyoke, Mass. 01042 / 413-539-9811 / *C 65

Paper tape, continuous forms, binders for programming instructions / S 1000 / E 1843

The National Cash Register Co., Main & K Sts., Dayton, Ohio 45409 / 513-449-2000 / *C 65

NCR 315, 390, 500 data processing systems; electronic bank posting machines; punched paper tape recorders; card punch couplers; input-output devices; digital computers / S 60,000 / E 1894

National Computer Analysts, Inc., U. S. Highway 1, Lynwood Dr., Princeton, N. J. 08540 / 609-452-2800 / *C 65

Programming, systems specification and design, data processing on own RCA 301 computer / S 40 / E 1961

National Physical Laboratory, Mathematics Div., Teddington, Middlesex, England / TEDdington Lock 3222 / *C 65

Computing service using DEUCE, ACE and KDF9 / S 60 / E 1945

NAVCO (Navigation Computer Corp.), Valley Forge Ind. Park, Norristown, Pa. / 215-452-6531 / *C 64

Transistorized digital modules and special-purpose digital computers; paper tape reader and printing paper tape punch / S 111 / E 1955

New Era Ribbon & Carbon Co., Inc., 1228 Cherry St., Philadelphia, Pa. 19107 / 215-LD 3-1973-4 / *C 65

All types of computer and tabulator ribbons / S 15 / E 1959

Simon M. Newman, 1411 Hopkins St., N.W., Washington, D. C. 20036 / DU 7-4672 / *C 65

Consultant in documentation; specializing in information retrieval / S 0 / E 1961

Nexus Research Laboratory, Inc., 480 Neponset St., Canton, Mass. 02021 / 617-828-9000 / *C 65

Solid-state encapsulated d-c operational amplifiers, analog instruments and modules / S 70 / E 1962

Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif. 92014 / 714-755-1134 / *C 65

Digital voltmeters, ohmmeters, ratiometers; electronic measurement instruments for missile, nuclear, scientific and manufacturing fields; digital readouts, data processing and recording equipment, scanners, visual output devices, analog to digital converters, digital to analog converters, digital clocks, binary to decimal converters, AC and DC amplifiers (precision), statistical digital voltmeters, digital telemetering, digital counters / S 350 / E 1952

Norden Div. of United Aircraft Corp., Helen St., Norwalk, Conn. 06852 / 203-839-4471 / *C 65

Sense amps, differential amps, servo amps, gates, custom analog and digital circuits, all fabricated as monolithic integral circuits; 10-5 or flat package / S 2100 / E 1928

North Atlantic Industries, Inc., 200 Terminal Dr., Plainview, N. Y. 11803 / 516-0V 1-8600 / *C 64

Peripheral input and output units / S 125 / E 1956

Norton Associates, Inc., 240 Old Country Rd., Hicksville, N. Y. 11801 / 516-Overbrook 1-6181 / *C 65

Standard and special magnetic record, playback, and erase heads in single and multi-track arrangements for magnetic tape, film, drum, and magnetic ink character recognition / S 50 / E 1955

Nortronics Div., Northrop Corp., 1 Research Park, Palos Verdes Peninsula, Calif. 90274 / 213 - FRontier 7-4811 / *C 65

Automatic checkout equipment, airborne and other digital and analog computers, display and information systems, astro-inertial and inertial guidance systems / S 16,033 (Northrop Corp.); 6000 (Nortronics Div.) / E 1939 (Northrop Corp.); 1957 (Nortronics Div.)

Nortronics, A Div. of Northrop Corp., Precision Products Dept., 100 Morse St., Norwood, Mass. / 617-762-5300 / *C 65

Precision gyroscopes, gyro systems, inertial components, inertial sensor test facilities, standards laboratories, accelerometers / S 1200 / E 1948

Novatronics, Inc., 500 N. Andrews Ave., Ext., P. O. Box 878, Pompano Beach, Fla. 33061 / 305-942-5200 / *C 65

Research, development and manufacture of telemetry systems and components, airborne electronic instrumentation, electronic ground support and control equipment, special electronic test sets, automatic checkout equipment, instrumentation vans, precision electronic devices such as highly regulated power supplies and military ordnance and logic equipment, baluns, filters, multiplexers, transformers, vibration analysis equipment, spectrum analyzers / S 75 / E 1965

Nytronics, Inc., 550 Springfield Ave., Berkeley Heights, N. J. / 201-464-9300 / *C 64

Design and manufacture of subminiature molded shielded inductors and ceramic capacitors for sophisticated missile and computer applications / S 450 / E 1946

Q

Edward Ochman Systems, Box 141, Fairfield, Conn. / 259-1927 / *C 65

Manufacturers and sellers of control panels and wires for IBM and Remington Rand Equipment; also data processing accessories and computer tape storage equipment / S 15 / E 1949

Ohio Envelope Co., Lock Box 19086, Cincinnati 19, Ohio / 961-6698 / *C 65

Tabulating forms, filing systems for tab forms and tape filing, plastic filing envelopes / S 23 / E ?

Old Town Corp., 750 Pacific St., Brooklyn, N. Y. 11238 / 212-MA 2-2600 / *C 64

Continuous forms and EDP ribbons / S 250 / E 1917

Omnitronics, Inc., Subsidiary of Borg-Warner Corp., 511 N. Broad St., Philadelphia, Pa. 19123 / 215-925-4343 / *C 65

Digital communication systems; space electronic devices and systems; digital data handling equipment such as checkout equipment, small special purpose computers, tape-to-tape converters, editors, and buffering equipment. Communications terminal equipment such as high-speed photoelectric tape readers, recorders, and displays / S 30,000, Borg-Warner Corp. / E 1960

Opto-Electronic Devices, Inc., subsidiary Sigma Instruments, Inc., 170 Pearl St., Braintree, Mass. 02185 / 617-843-5000 / *C 65

Opto-electronic translators / S 1000 / E 1963 (subsidiary)

P

Pace Controls Corp., 661 Highland Ave., Needham Hgts., Mass. 02194 / 617-444-8844 / *C 64

Incremental servo motors (stepping), digital control systems, numerical control systems, special precision motion control systems for automation / S 30 / E 1960

Pacific Data Systems, Inc., 1059 E. First St., Santa Ana, Calif. 92701 / 714-547-4135 / *C 65

Small scale, general purpose digital computers for engineering, scientific and process applications / S 40 / E 1961

Pacific Electro Magnetics Co., Inc., 942 Commercial St., Palo Alto, Calif. 94303 / 415-321-1177 / *C 65

Ultra-portable instrumentation magnetic tape recorders and related equipment / S 26 / E 1959

Packard Bell Computer, a div. of Packard Bell Electronics — see Raytheon Computer

Paktron Div., Illinois Tool Works Inc., 1321 Leslie St., Alexandria, Va. / - / *C 65

Plastic film capacitors / S ? / E ?

Paper Manufacturers Co., 9800 Bustleton Ave., Philadelphia, Pa. 19115 / Orchard 3-4500 / *C 65

Film, fiber, and paper tapes / S 250 / E 1905

Parzen Research, Inc., 48 Urban Ave., Westbury, L. I., N. Y. 11590 / 516-ED 4-3900 / *C 65

Precision timing systems; ultra-stable frequency combiners, frequency comparators, frequency generation equipment; special data handling, telemetry, and tone-signaling systems / S 25 / E 1962

Pastoriza Electronics, Inc., 385 Elliot St., Newton Upper Falls, Mass. 02164 / 617-332-2131 / *C 65

Special purpose analog and digital computers; interface, A-to-D, components / S 30 / E 1961

P C A Electronics Inc., 16799 Schoenborn St., Sepulveda, Calif. / 362-0761 / *C 64

Miniature pulse transformers, delay lines, toroids, filters / S 75 / E 1950

L. A. PEARL CO., 801 Second Ave., New York, N. Y. 10017 / 212-OR 9-6535 / *C 65

IBM computers and peripherals bought for cash / S 1 / E 1945

Pergamon Press, Inc., 44-01 21st St., Long Island City, N. Y. 11101 / 212-EM 1-7900 / *C 65

Books / S 75 / E 1953

The Perkin-Elmer Corp., Main Ave., Norwalk, Conn. / 847-0411 / *C 64

Electronic-optical systems, chemical analytical instruments, electronic components. Recording missile track systems, infrared systems, analog computers, potentiometers / S 1600 / E 1936

Perkin-Elmer Corp., Electronic Products Div., 771 Main Ave., Norwalk, Conn. / 203-847-0411 / *C 64

Vernistat A.C. potentiometers, adjustable function generators, digital data recorders, specialized analog computer components, one-brush absolute-position analog to digital shaft encoders (linear motion and rotary), bidirectional counters / S 94 / E 1954

PHILBRICK RESEARCHES, INC., 34 Allied Dr. at Route 128, Dedham, Mass. 02026 / 617-329-1600 / *C 65

Electronic analog computing equipment, including operational amplifiers, regulated dc power supplies, computing operators—linear and non-linear, the "Q3" modular packaging system, and multi-channel oscilloscope display / S 150 / E 1946

Philco Corp., a subsidiary of Ford Motor Co., Communications & Electronics Div., Information Systems Dept., 3900 Welsh Rd., Willow Grove, Pa. 19090 / 215-OL 9-7700 / *C 65

Digital computers: general purpose, scientific, commercial and military; special purpose computers; integrated command and control systems; message and data switching systems; general purpose print reader; real-time access and display system / S 1350 / E 1958, division

Philco Corp., Lansdale Div., a subsidiary of Ford Motor Co., Church Rd., Lansdale, Pa. / Ulysses 5-4681 / *C 64

Solid silicon, thin films, micrologic circuits, milliwatt micrologic circuits, germanium transistors, photosensors and tunnel and backward diodes, switching and mixer diodes, infrared components. Also Voltacaps (variable capacitors) / S 1400 / E 1948

Philips Electronic Instruments, 750 S. Fulton Ave., Mt. Vernon, N. Y. 10550 / 914-MOunt Vernon 4-4500 / *C 65

X-ray diffractometers, spectrophotons, cameras, detectors, industrial radiographic equipment, X-ray, electron microscopes, gauges, process control instrumentation, electron probe micro-analyzer, automatic X-ray spectrometer which may be linked with computers to read directly in any prescribed units of measurement / S 350 / E 1942

Photocircuits Corp., 31 Sea Cliff Ave., Glen Cove, N. Y. 11542 / 516-OR 6-8000 / *C 65

Photoelectric paper tape readers, printed circuit motors for capstan drives / S 450 / E 1951

Photocon Research Products, 421 N. Altadena Dr., Pasadena, Calif. 91107 / 213-792-4131 / *C 64

Electro-mechanical digital readout devices / S ? / E ?

Photo Magnetic Systems, 1800 R St., N.W., Washington, D. C. 20009 / - / *C 65

Information storage and retrieval / S ? / E ?

Photomechanisms, Inc., 15 Stepar Pl., Huntington Sta., N. Y. 11746 / 516-HA 5-4411 / *C 65

Rapidata(B) photo processors, cinefluorographic cameras; photographic instrumentation; optics; electronics; on-line hard copy from CRT displays / S 45 / E 1952

Photon, Inc., 355 Middlesex Ave., Wilmington, Mass. / 933-7000 / *C 65

"ZIP" 900, a high-speed, computer photographic printout device; manual and perforated tape driven phototypesetting machines / S 225 / E 1951

Planning Research Corp., 1100 Glendon Ave., Los Angeles, Calif. 90024 / 213-GR 9-7725 / *C 65

Analysis, design and implementation of programming systems for electronic computers / S 510 / E 1954

Potter Instrument Co., Inc., 151 Sunnyside Blvd., Plainville, L. I., N. Y. 11893 / Overbrook 1-3200 / *C 65

Digital magnetic tape transports, record-playback heads and amplifiers, high-speed printers, photoelectric paper tape readers, random access memory systems / S 650 / E 1947

Prestoseal Mfg. Corp., 37-12 108th St., Corona, N. Y. 10068 / 212-IL 7-5566 / *C 65

Splicing equipment and related accessories for paper tape, magnetic tape and microfilm / S 22 / E 1947

Procedyne Corp., 221 Somerset St., New Brunswick, N. J. 08903 / 201-249-8347 / *C 65

Fourier transform computer, frequency response analyzer, signal generators, converters and transducers, phase meters, calibration equipment / S 12 / E 1961

Programming & Systems, Inc., 33 W. 42nd St., New York, N. Y. 10036 / - / *C 65

Data processing service bureau with all phases of EDP operation, consulting and systems engineering / S ? / E ?

Q

Quest Manufacturing Co., 220 W. Monroe St., Chicago, Ill. 60606 / 312-782-7838 / *C 65

Inked ribbons for all computer/data processing and machine accounting equipment / S 30 / E 1917

Quindar Electronics Inc., 60 Fadem Rd., Springfield, N. J. 07081 / 201-379-7400 / *C 65

Data transmission equipment / S 85 / E 1960

R

Radiation Inc., Melbourne, Fla. 32902 / PA 3-1511 / *C 64

Ground/aerospace information handling systems / S 1400 / E 1951

The Rapids Standard Co., Inc., 825 Rapistan Bldg., Grand Rapids, Mich. 49502 / 616-451-2091 / *C 65

Manufacturers of materials handling equipment: conveyors, storage racks, etc. / S 300 / E ?

Raytheon Co., Communications and Data Processing Operation, 1415 Boston-Providence Tpk., Norwood, Mass. / - / *C 64

Packaged computer circuits, A to D converters, D to A converters / S 32,000 (total company) / E 1923

Raytheon Co., Semiconductor Div., 350 Ellis St., Mountain View, Calif. / 968-9211 / *C 64

Silicon planar and planar-epitaxial transistors, diodes and monolithic integrated circuits for general purpose, switching and computer logic applications / S 800 / E 1963 (div.)

Raytheon Computer 2700 S. Fairview St., Santa Ana, Calif. 92704 / 714-546-7160 / *C 65

PB250 low-cost general purpose computer and 520 medium-scale scientific computer. TRICE digital differential analyzer. Silicon and germanium digital modules for 200 KC, 1MC, 5MC, module breadboard kits. A/D converters for 30KC, 15-bit operation and 70KC, 12-bit operation; commutators, integrated circuit multi-

Roster of Organizations

- plexers; sample and hold units, differential amplifiers and other digital and data systems equipment. Biax memory systems. System engineering and fabrication for industry and military; data processing, reduction, acquisition applications / S 350 / E 1958
- RCA Electronic Data Processing, Cherry Hill, Camden 8, N. J. / WO 3-8000 / *C 65
Full range of digital computers, components, supplies and services / S ? / E 1955
- Recognition Equipment Inc., 4703 Ross Ave., Dallas 4, Tex. / Taylor 3-8194 / *C 65
Optical character recognition systems, high-speed document handling equipment, electronic and electromechanical apparatus, visual data displays / S 150 / E 1961
- Records Reserve Corp., 751 Clay Rd., Rochester, N. Y. 14623 / 716-334-3644 / *C 65
Computer accessories: aluminum reels for magnetic tape, plastic reel cases, tape stoppers, shielded magnetic tape carrying and shipping cases, storage cabinets for panel boards and magnetic tape, and auxiliary tape racks / S 35 / E 1955
- Redcor Corp., 7760 Deering Ave., Canoga Park, Calif. 91304 / 213-348-5892 / *C 65
Data acquisition system; A-D and D-A converters; digital logic modules / S 220 / E 1956
- Redifon Limited, Computer Dept., Gatwick Rd., Crawley, Sussex, England / CRAWLEY 28811 / *C 64
General and special purpose analog computers educational analog computers, analog computer courses, special systems engineering / S 1000 / E 1949
- Reeves Instrument Co., Roosevelt Field, Garden City, N. Y. / Pioneer 6-8100 / *C 64
Analog computers and systems, analog-to-digital and digital-to-analog converters, gyros, resolvers, servo mechanism system, radar and guidance systems, computing services, data recording equipment, computers for simulation, automation and control, differential analyzers, electronic integrators / S 1400 / E 1946
- Reeves Soundcraft, Div. of Reeves Industries, Inc., Great Pasture Rd., Danbury, Conn. / 203-743-7601 / *C 65
Magnetic recording tapes and accessories for computers, instrumentation, video and sound recording / S 300 / E 1946
- Reflectone Electronics Division - Universal Match Corp., W. Main St., Stamford, Conn. / - / *C 64
Special purpose digital and analog simulator computers / S 400 / E 1940
- Rese Engineering, Inc., A & Courtland Sts., Philadelphia, Pa. 19120 / 215-GL 5-9000 / *C 64
Magnetic core memories, special purpose computers and digital instrumentation / S 30 / E 1953
- RHEEM ELECTRONICS, 5250 W. El Segundo Blvd., Hawthorne, Calif. 90251 / 213-772-5321 / *C 65
Photocell punched tape readers and tape spoolers / S 85 / E 1960
- Rixon Electronics, Inc., 2121 Industrial Pkwy., Silver Spring, Md. 20904 / 301-622-2121 / *C 65
Data modems, teletype and computer input data multiplexers, special purpose electro-mechanical peripheral equipment for computer systems / S 200 / E 1953
- RMS Associates, Div. of Information Displays, Inc. -- name changed to Information Displays, Inc., which see
- The Roback Corp., Huntingdon Valley, Pa. 19006 / 215-OR 6-4000 / *C 65
Digital logic modules, Facilogic® digital breadboards, low cost digital solid state volt-ohm meters, A/D and D/A converters, multiplexers, data processors, computer formatting and buffering equipment / S 100 / E 1962
- Robertshaw Controls Co., Aeronautical & Instrument Div., Santa Ana Freeway at Euclid St., Anaheim, Calif. 92803 / 714-535-8151 / *C 65
Telegraph and data terminal equipment for all types of transmission media / S 250 / E 1952
- Robins Data Devices, Inc., 15-58 127th St., Flushing, N. Y. 11356 / 212-HI 5-7200 / *C 65
Paper and magnetic tape splicers, hand encoders, winders, paper tape reels, unwinders, tape holders, tape filing supplies / S 50 / E 1954
- Rotiform Corp., 1925 Pontius Ave., Los Angeles 25, Calif. / 213-473-9920 / *C 64
Card readers, static / S 26 / E 1957
- ROTRON MANUFACTURING CO., INC., Hasbrouck Lane, Woodstock, N. Y. 12498 / 914-679-2401 / *C 65
Cooling equipment, fans and blowers for electronics industry / S 485 / E 1949
- S
- Sage Electronics Corp., Box 3926, Rochester, N. Y. 14610 / 716-LUdow 6-8010 / *C 65
Miniature wirewound precision power resistors / S 105 / E 1948
- Sanborn Company, 175 Wyman St., Waltham, Mass. 02154 / Twinbrook 4-6300 / *C 64
Oscillographic recording instruments and systems, X-Y recorders and transducers, data amplifiers, multi-trace oscilloscopes, tape recorder (7-channel), transducer amplifier/indicators / S 1000 / E 1917
- Sanders Associates, Inc., 95 Canal St., Nashua, N. H. 03060 / 603-883-3321 / *C 65
Computer driven information displays, character generators, digital logic circuitry and special computers / S 3000 / E 1951
- Sangamo Electric Co., 1301 N. 11th St., Springfield, Ill. / 217-544-6411 / *C 64
Capacitors, inductive components, magnetic tape recorder/reproducers, crystal filters, ultrasonic delay lines, servo motors / S 5000 / E 1899
- The Scam Instrument Corp., 7401 N. Hamlin Ave., Skokie, Ill. 60076 / Cornelia 7-8300 / *C 65
Design and manufacture digital data scanners, loggers, digital controllers, recording annunciators, graphic control panels, special purpose digital computers. Also G.P. programming services / S 250 / E 1953
- Schaevitz-Bytrec Corp., 223 Crescent St., Waltham, Mass. 02154 / 617-899-5600 / *C 65
Electronic weighing and measuring systems, strain gauge devices; load, pressure and torque transducers and systems / S 70 / E 1957
- Scientific Data Systems, Inc., 1649 17th St., Santa Monica, Calif. / 213-871-0960 / *C 65
Six low cost, high performance, solid-state magnetic core, general purpose digital computers, the SDS 92, SDS 910, SDS 920, SDS 925, SDS 930, and SDS 9300, for scientific/engineering computation and for integration into on-line real-time digital systems. Complete line of digital logic modules and system components, such as analog-to-digital converters, multiplexers, etc., design and manufacture of computer-based digital systems for industry and government / S 1600 / E 1961
- Seismograph Service Corp., Box 1590, (6200 E. 41st St.), Tulsa, Okla. 74102 / 918-NA 7-3330 / *C 65
Optical analog computer / S 500 (Tulsa); 1600 (world-wide) / E 1931
- The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N. Y. / PLaza 1-5600 / *C 64
Data processing, programming, systems analysis, and machine services on a contractual basis for business and scientific problems using IBM 650, 1401, 7070, 7090, 7094, 1620, 1460, dataplotting, MICR reader-sorter, and unit record equipment. Offices in 70 cities. Extensive computer application experience in fields too numerous to list. The following data processing systems are available on an hourly basis: IBM 650, 1401, 7070, 7090, 7094, 1460 / S 1600 / E 1932
- Servo Corporation of America, 111 New South Rd., Hicksville, N. Y. / 516-WElls 8-9700 / *C 64
Computer interface equipment; i.e., digital-to-synchro converters, synchro-to-digital converters; binary-to-decimal converters standard units and custom designed / S under 500 / E 1946
- Shepard Laboratories, Inc., 480 Morris Ave., Summit, N. J. / 201-GR 3-5255 / *C 65
Small and large high-speed typers for data processing field / S 40 / E 1940
- S-I Electronics, Inc., 103 Park Ave., Nutley, N. J. 07110 / 201-667-0055 / *C 65
Magnetic tape transports, magnetic tape heads, magnetic drums / S 80 / E 1959
- F. W. Sickles Div., General Instrument Corp., 165 Front St., Chicopee, Mass. / LXceum 4-4781 / *C 64
Computer components; electromagnetic delay lines, lumped constant and distributed constant, fixed and variable step; audio and ultrasonic filters; toroidal inductors; embedded assemblies; L-C tuned circuits; etc. / S 1900 / E 1921
- Sigma Instruments, Inc., 170 Pearl St., Braintree, Mass. / - / *C 65
Cyclonome, single phase, high torque, synchronous stepping motor / S ? / E ?
- Societe d'Electronique et d'Automatisme, 17-19, rue du Moulin des Bruyeres, COIRBEVOIE (Seine), France / DEFense 41-20 (DEF. 41-20) / *C 65
Analog computers Type NADAC 20 and NADAC 100 with non-linear components and recorders; flight simulators; digital computers Type CAB 500 and 3900 for scientific applications and data processing, using punched tape and magnetic tape; input and output equipment, tape reader, paper tape punches. Electronic high speed printers, industrial computer CINA for process control; automation devices, coders, storage, etc.; numerical control / S 800 / E 1947
- Solid State Electronics Corp., 15321 Rayen St., Sepulveda, Calif. / 364-2271 / *C 65
Line of solid state silicon digital logic modules; 10 megacycle speed, -55°C to +125°C; microminiature. Logic modules available include: J-K flip-flop (logic), flip-flop, counter/shift register, "and-or" gates, Schmitt Trigger, inverting amplifier, non-inverting amplifier, slave clock, clock oscillator, free running multivibrator, one-shot multivibrator / S 10 / E 1958
- Soroban Engineering, Inc., P. O. Box 1690, Melbourne, Fla. 32902 / 305-723-7221 / *C 65
Input/output equipments / S 225 / E 1954
- Southern Computer Service, 280 TV Rd., P. O. Box 100, Dothan, Ala. 36302 / 794-3166 / *C 65
EDP service bureau, commercial data processing / S 0 / E 1962
- Sperry Farragut Co., Div. of Sperry Rand Corp., Bristol, Tenn. 37622 / 615-968-1151 / *C 65
Amplifiers; packaged computer circuits, plug-in circuits; printed circuits; computer type coils; analog computers; computer components; fire control equipment; systems engineering / S 1000 / E 1951
- Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y. 11020 / 516-IR 4-0111 / *C 65
Research, design development and manufacture of digital and analog computers for underwater, surface and airborne applications, including general purpose and special miniature computers for airborne and space applications; data processing equipment; electronic digital to analog and analog to digital conversion equipment; counter-measures systems; check-out equipment; magnetic drums and memory systems; stable platforms, gyroscopes and accelerometers for inertial guidance systems for ships, aircraft and missiles, specializing in automatic transistorized, miniaturized devices and micro-circuits techniques / S 14,000 / E 1912
- Sprague Electric Co., 377 Marshall St., No. Adams, Mass. / 664-4411 / *C 64
Capacitors, transistors, resistors, magnetic shift registers, integrated microcircuits, thin-film microcircuits, pulse transformers, toroidal inductors, packaged digital circuits, delay lines / S 8500 / E 1926
- The Standard Register Co., 626 Albany St., Dayton, Ohio. 45401 / 513-223-6181 / *C 65
Business forms for source data collection (input) and (output) EDP equipment plus forms handling equipment (burstlers, separators, etc.) S 3900 / E 1912
- Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / 312-DEarborn 2-2484 / *C 65
Fourteen data processing and computer centers containing IBM 1400 series card and tape systems plus peripheral equipment and conventional punch card tabulating and data processing machines. Administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation. Divisions: Data Processing; TASK FORCE; Computer Advisors to Management; Space Services / S 5000 / E 1933
- Stellarmetrics, Inc., 210 E. Ortega St., Santa Barbara, Calif. / 963-3566 / *C 64
Development and production of standard and special electronic commutators/multiplexers for telemetry and data reduction applications. Decommutation system and signal simulators for general and specialized applications / S 80 / E 1961
- Strato-Floor, Inc., 795 E. 152nd St., Cleveland, Ohio 44110 / 451-3322 / *C 64
Elevated flooring / S 10 / E 1960
- Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa. 19115 / 215-ORchard 3-5600 / *C 65
Testing and measuring equipment, calibration, certification. Analog field plotter, prototypes, precision electromechanical assemblies, mechanical components / S 30 / E 1947
- Superec Electronics Corp., 4-6 Radford Pl., Yonkers, N. Y. / YOnkers 5-6906 / *C 64
Cable assemblies, plug in and printed circuits, coils, ferrite cores, jacks, transformers, headphones, headsets, and other components / S 60 / E 1950
- Sylvania Electric Products, Inc., Semiconductor Div., 100 Sylvan Rd., Woburn, Mass. / WE 3-3500 / *C 64
Semiconductor products / S 1800 / E 1942
- Sylvania Electronic Systems, 40 Sylvan Rd., Waltham, Mass. 02154 / 617-894-8444 / *C 65
Special purpose data processing system / S 10,000 / E 1905
- Systemat, 1107 Spring St., Silver Spring, Md. / 301-587-4200 / *C 65
Professional placement of computer personnel / S 10 / E 1960
- Systems Engineering Laboratories, Inc., 6901 W. Sunrise Blvd., Fort Lauderdale, Fla. 33310 / 305-587-2900 / *C 65
Direct digital control systems; digital computers - general purpose and scientific / S 350 / E 1961
- Systems Sales Co., a div. of Systems Mfg. Corp., 13 Broad St., Binghamton, N. Y. 13904 / 607-723-6344 / *C 65
Tabulating and computer accessories / S under 300 / E 1945
- Systron-Donner Corp., 888 Galindo St., Concord, Calif. 94520 / 415-682-6161 / *C 64
Analog computers and components, multi-channel data acquisition systems / S 375 / E 1960
- T
- Tab Products Co., 550 Montgomery St., San Francisco, Calif. / - / *C 64
Data processing auxiliary and computer room equipment / S ? / E ?
- Tally Corp., 1310 Mercer St., Seattle, Wash. 98109 / 206-MA 4-0760 / *C 64
Perforated tape readers and punches, computer input-output, display data transmission equipment, perforated tape/magnetic tape conversion systems / S 129 / E 1951
- Tape Certifiers, Inc., 1604 W. 139th St., Gardena, Calif. 90249 / 213-321-6846 / *C 65
Magnetic tape certification and re-certification

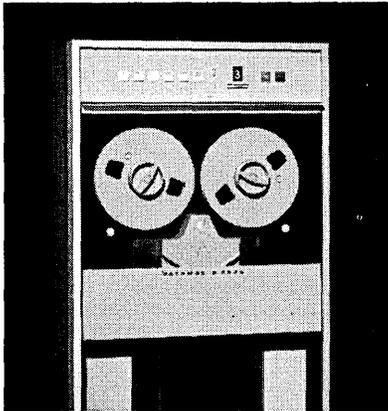
Roster of Organizations

- cation for computer and telemetry applications and tape consulting / S 19 / E 1964
Taurus Corp., Academy Hill, Lambertville, N. J. / Export 7-2390 / *C 64
 Static punched card readers, Teflon insulated terminals / S 70 / E 1956
Techniques, Inc., 40 Jay St., Englewood, N. J. / 201-LD 9-5333 / *C 64
 Printed circuits; blank modular P.C. boards with circuits for digital operations; photo-etched metal parts / S under 50 / E 1954
Techni-rite Electronics, Inc., 65 Centerville Rd., Warwick, R. I. / 401-737-2000 / *C 65
 Data recording equipment, oscillographs / S 85 / E 1959
Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia, Pa. 19134 / 215-GA 6-9105 / *C 65
 Custom built digital data processors, high speed print stations, buffer memories. Pulse transformers, electromagnetic delay lines. Programming, computer maintenance / S 545 / E 1947
Tech Serv Inc., 5451 Holland Drive, Beltsville, Md. 20705 / 301-474-2900 / *C 65
 Transistorized digital logic elements and digital systems / S 45 / E 1959
TELAutograph Corp., 8700 Bellanca Ave., Los Angeles, Calif. 90045 / 213-OR 8-4756 / *C 65
 Graphic communications systems/equipment for transmission of handwriting (Instantaneous) or facsimile (page-a-minute) / S 250 / E 1888
Tele-Dynamics Div., American Bosch Arma Corp., 5000 Parkside Ave., Philadelphia, Pa. / 215-TR 8-3000 / *C 64
 Peripheral equipment, electro-static recorders and readers / S 300 / E 1959
Telemetrics, Inc., 2830 Fairview St., Santa Ana, Calif. 92704 / 714-546-4500 / *C 65
 General and special purpose computers, telemetry data processors, signal conditioners, synchronizers / S 500 / E 1962
Telegister Corp. -- name changed to The Bunker-Ramo Corp., which see
Teletype Corp., 5555 Touhy Ave., Skokie, Ill. / 312-CO 7-6700, 312-OR 6-1000 / *C 64
 Message and data communications equipment. Tape readers and tape punches for computer input/output. Page printers / S 5000 / E 1907 (Bell System, 1930)
Tempo Instrument Inc., E. Bethpage Rd., Plainview, L. I., N. Y. / 516-MY 4-4400 / *C 64
 Timers, timing sequence programmers, precision time base generators, data logging systems / S 150 / E 1956
M. Ten Bosch, Inc., 80 Wheeler Ave., Pleasantville, N. Y. / 914-RO 9-3000 / *C 65
 Amplifiers, automatic controls, servo mechanisms / S 60 / E 1950
Texas Instruments Inc., 13500 N. Central Expressway, Dallas 22, Tex. / 214-AD 5-3111 / *C 65
 Semiconductor products and components, silicon and germanium transistors, silicon diodes and rectifiers, resistors, tantalum capacitors, integrated circuits, thin-film circuits / S 14,000 / E 1954
Texas Instruments Inc., Industrial Products Group, 3609 Buffalo Speedway, Houston, Tex. 77006 / 713-JA 6-1411 / *C 65
 Pulse generators, transistor and component testers, analog to digital converters / S 700 / E 1932
Theta Instrument Corp., Saddle Brook, N. J. 07663 / 201-487-3508 / *C 65
 Analog-digital converters / S 150 / E 1956
3 M Co., Instrument Dept., 12909 S. Cerise Ave., Hawthorne, Calif. / 213-772-5141 / *C 65
 3 M-201 control computer systems, 3 M-110 data acquisition systems, 3 M-220 direct digital controls / S ? / E 1963
3 M Co., Revere-Mincom Div., 300 S. Lewis Rd., Camarillo, Calif. / 805-482-1911 / *C 65
 Magnetic recorders for analog, frequency modulation, pulse code modulation as used in instrumenting missile ranges, etc. / S 500 / E ?
Torotel, Inc., 5512 E. 110th St., Kansas City, Mo. 64137 / 816-SOUTH 1-6314 / *C 65
 Magnetic amplifiers, delay lines, pulse transformers / S 100 / E 1956
Towson Laboratories, Inc., 3500 Parkdale Ave., Baltimore, Md. 21211 / 301-367-4001 / *C 65
 A/D converters and multiplexers, analog to teletype converters, telemetering equipment, data logging equipment / S 25 / E 1959
Trak Electronics Co., Inc., 59 Danbury Rd., Wilton, Conn. 06897 / 203-762-5521 / *C 65
 Morse-to-teletypewriter code converters, TWX-to-CCIT translators; teletype multiplexers, Digistore® / S 250 / E 1947
Transistor Electronics Corp., Box 6191, Minneapolis, Minn. 55424 / 612-941-1100 / *C 65
 Digital readouts, indicators, switches and information display panels for computers, control, guidance and other solid state systems / S 200 / E 1957
Transitel International Corp., 615 Winters Ave., Paramus, N. J. / 262-8200 / *C 64
 Data transmission terminals of the standard and self-optimizing types, supervisory control and telemetering / S 30 / E 1959
Transkrit Corp., 704 Broadway, New York 3, N. Y. / 212-OR 3-2200 / *C 65
 Magnetic ink encoding, consecutive MICR numbering, including modulus and self-check / S 100 / E 1938
Trepac Corporation of America, 30 W. Hamilton Ave., Englewood, N. J. 07631 / 201-567-3810 / *C 64
 (Communications, hardware and systems) Computer type - Data/Teletype/Data Interfaces-Controls activated from D.C. or tone program lines - Relays (computer types to five kilobits) - Neutral/polar/neutral and voltage/current/voltage converters / S 20 / E 1957
Triton Electronics, Inc., 62-05 30th Ave., Woodside 77, N. Y. / 212-721-7500 / *C 65
 Computer and instrumentation tape / S 75 / E 1939
TRW Space Technology Laboratories, One Space Park, Redondo Beach, Calif. / 679-8711 / *C 64
 Two 7094's; two IBM 1410's; one IBM 1401; RCA 501; RCA 301; plus special purpose data reduction/analog computation center / S 7000 / E 1954
- U
- Uarco Inc.**, W. County Line Rd., Barrington, Ill. / 381-4030 / *C 65
 All types of business forms and forms handling equipment / S 2700 / E 1894
Unimation Inc., 16 Durant Ave., Bethel, Conn. / 203-744-1800 / *C 65
 Magnetic storage and memory systems, automatic controls, digital automation, magnetic drums, Unimate robot / S 40 / E 1962
Union Switch & Signal Div. of Westinghouse Air Brake Co., Pittsburgh, Pa. 15218 / 412-242-5000 / *C 65
 "Readall" readout instruments, miniature and sub-miniature relays, remote control systems for railroads and pipelines; control and communication systems for industry; remote controls for locomotives and vehicles / S 1500 / E 1881
United Data Processing, 1001 S.W. 10th, Portland, Ore. / - / *C 65
 Key punch trainer machine and program; service bureau with 2 tape 1401's, teleprocessing, punched tape, key punch, etc., providing general business computing / S 65 / E ?
UNIVAC Div. of Sperry Rand Corp., 1290 Ave. of Americas, New York, N. Y. 10019 / 212-956-2121 / *C 65
 Digital electronic computing systems, data processing services / S ? / E ?
UNIVAC Div. of Sperry Rand Corp., 10924 Ave. J East, Grand Prairie, Tex. / AN 2-3511 / *C 63
 Complete MICR bank processor systems including high-speed document sorters, audit listers, and Central Processor with accumulating and dictionary look-up capabilities. MICR document encoding devices to print the amount, account number, and transit number fields. Optical character recognition systems for automation of accounts receivable and inventory control, including Readatron Card Punch and Charge Sales Recorders / S 150 / E 1957
UNIVAC Twin Cities Operations of Sperry Rand Corp., UNIVAC Park, St. Paul, Minn. 55116 / 612-698-2451 / *C 64
 Digital electronic computing and data processing systems airborne and ground-based, real time computers, peripheral equipment programming services / S 5300 / E 1947
Uptime Corp., 15910 W. 5th Ave., Golden, Colo. 80401 / 303-279-3351 / *C 65
 Electro-mechanical punched card reading equipment / S 60 / E 1958
URS Corp., 1811 Trousdale Drive, Burlingame, Calif. 94011 / 415-697-1221 / *C 65
 Data processing services, systems design and programming / S 124 / E 1951
Useco Div., Litton Industries, 13536 Saticoy St., Van Nuys, Calif. / 213-ST 6-9381 or 213-TR 3-3520 / *C 65
 Electronic hardware, terminals, terminal boards, molded products, headers, encapsulation cups, screw machine / S 125 / E 1943
U. S. Navy, Marine Engineering Laboratory (Computer Div.), Annapolis, Md. / 301-768-7711, Ext. 8514 / *C 65
 1401 IBM/16 K - mathematical analysis and research, programming, engineering, computing and data processing services for government / S 20 (Div.), 700 (Lab.) / E 1903
- V
- Vector Electronic Co., Inc.**, 1100 Flower St., Glendale, Calif. 91201 / 213-245-8971 / *C 65
 Pre-programming, patchboards, patch cords, plug-in cards, breadboard kits / S 85 / E 1947
Veeder-Root, Inc., 70 Sargeant St., Hartford, Conn. 06102 / 203-527-7201 / *C 65
 Analog-to-digital converters; electronic counters and controls; mechanical, electro-mechanical and instrument counting, recording and controlling devices; gasoline pump computers; aviation instruments; photoelectric actuator controls / S 1900 / E 1866
Victor Comptometer Corp., Business Machines Div., 3900 N. Rockwell St., Chicago 18, Ill. / 312-KE 9-8210 / *C 64
 Digit-Matic solenoid operated calculators, listers, accumulators; Electrowriter System handwritten communications; adding machines and calculators, comptometer calculators / S 3200 / E 1889
Virginia Electronics Co., Inc., River Rd. E & B and O Railroad, Washington, D. C. 20016 / 301-654-6600 / *C 65
- Wabber Electronics, Inc.**, 2000 N. Second St., Philadelphia, Pa. 19122 / 215-NEBRASKA 4-3200 / *C 65
 Power controls / S 43 / E ?
The Walkirt Co., 10321 S. La Cienega Blvd., Los Angeles 45, Calif. / 213-SP 6-0323 / *C 64
 Plug-in pulse circuit packages; complete counters, multivibrators, amplifiers, gates, triggers, pulse generators, etc. / S 50-100 / E 1948
Wang Laboratories, Inc., 836 North St., Tewksbury, Mass. / 617-851-7311 / *C 65
 A/D conversion systems, electronic counters, data acquisition and reduction systems, block tape readers, desk-top computers for keyboard or card-programmed computation of operations and iterative functions / S 80 / E 1951
Warren Associates, 433 Putnam Ave., Cambridge, Mass. / OL 5-2097 (Watick, Mass.) / *C 65
 Software, consulting service, correspondence courses / S 5 / E 1964
Washington Aluminum Co., Inc., Knecht Ave. and P.R.R., Baltimore, Md. 21229 / 301-242-1000 / *C 65
 Computer flooring (raised, free access, steel) / S 250 / E 1947
Wayne Kerr Corp., 1633 Race St., Philadelphia 3, Pa. / - / *C 64
 Transfer function computers / S ? / E ?
Weber Showcase and Fixture Co., Inc., 1340 Monroe Ave., N.W., Grand Rapids, Mich. / 361-7341 / *C 64
 Infinite access flooring / S 1500 / E 1898
F. S. Webster Co., Interchemical Corp., Copying Products Div., 1 Amherst St., Cambridge, Mass. 02142 / 617-KI 7-2300 / *C 65
 Inked ribbons for all computers / S 225 / E 1899
Westgate Laboratory, Inc., 506 S. High St., Yellow Springs, Ohio 45387 / R0ckwell 7-7375 (Dayton, Ohio -- Victor 9-1330) / *C 65
 Research, development, prototype, and small lot production in electronics, physics, optics and photography; X-Y plotters and vehicle position displays, controls, industrial instrumentation, eye movement cameras, X-Y recorders / S 58 / E 1956
Westinghouse Electric Corp., Pittsburgh 35, Pa. / EX 1-2800 / *C 63
 Complete line of industrial computer systems. Digital; Prodac industrial computers for all industrial processes and electric utility generation and dispatching applications. Analog; economic dispatch computer for dispatching power on electric utility systems / S 125,000 / E prior to 1900
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y. RE 9-3611 / *C 63
 Receiving tubes; image, storage, multiplier phototubes; special purpose tubes; military and industrial cathode ray tubes / S 2500 / E before 1930
Weston-Boonshaft and Fuchs, Hatboro Industrial Pk., Hatboro, Pa. / 215-OS 2-1240 / *C 65
 Sine, transient and random computer analyzers, servo computers, control systems, statistical computers / S 100 / E 1959
Weston Hydraulics, Ltd., 7500 Tyrone Ave., Van Nuys, Calif. / 213-ST 1-4000 / *C 64
 Analog digital servomechanism components and systems / S 550 / E 1945
Weston Instruments, Inc., 614 Frelinghuysen Ave., Newark, N. J. 07114 / 201-243-4700 / *C 65
 Instruments and components; indicating, display and controlling instruments; product resolvers, input-output devices, multipliers, calibrators, relays, and resistors / S 2000 / E 1888
Weston-Transcoil, Worcester, Pa. / 215-279-9800 / *C 64
 Special purpose electro-mechanical analog computers / S 400 / E 1949
- WHEELDEX, Inc.**, 1000 N. Division St., Peekskill, N. Y. / 914-737-6800 / *C 65
 Peripheral equipment and supplies. Pinfeed cards plain or printed, single or multiple-up strips. Manual and motorized finding and filing equipment for all size records, tape-reels, etc. Custom designed equipment / S ? / E ?
- Wiancko Engineering Div.**, Tamar Electronics, Inc., 255 N. Halstead Ave., Pasadena, Calif. / 213-EL 5-7186 / *C 64
 Telemetry, control and data acquisition systems; pressure, acceleration and force transducers; test and calibration instruments / S 240 / E 1946
John Wiley & Sons, Inc., 605 3rd Ave., New York 16, N. Y. / TN 7-9800 / *C 65
 Technical books / S 500 / E 1807
G. C. Wilson & Co., 1035 26th St., Huntington, W. Va. 25703 / 304-523-5149 / *C 65
 Timing controls and time delay relays / S 10 / E 1945
Winchester Electronics Div., Litton Industries, Main St. & Hillside Ave., Oakville, Conn. / 203-274-8891 / *C 65
 Connectors, terminals, and accessories / S 375 / E 1941

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handsome
does

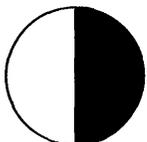
Sharpening old axioms is not our business. It's just that designers of EDP systems speak axiomatically when they tell us the new **D 3030** computer magnetic tape unit delivers a triple load of beauty: unprecedented reliability, economy and operating convenience. In addition to which, they say, it's so nice to look at!

Already the famous Datamec **D 2020** has set industry standards for low-cost operation in computer and off-line applications where moderate speed performance is highly practical (data transfer rates up to 36,000 cps). Now the new **D 3030** offers the same superior advantages for heavy duty, on-line use with digital computers and other digital EDP systems requiring higher data transfer rates.



The **D 3030** writes and reads all three densities (800, 556 and 200 cpi) at 75 ips tape speed. Push-button selection of 60,000, 41,700 and 15,000 cps data transfer rates. Either 7-track or 9-track format. Vacuum column tape buffers, semi-automatic tape threading, front access to all electronics, and many other advanced features. Bi-directional start and stop times of 5 ms and 1½ ms, respectively.

For all the facts, including pleasantly surprising low price quotations, write Tom Tracy at Datamec Corporation, 345 Middlefield Road, Mountain View, Calif.



DATAMEC
leadership in low-cost/high reliability
digital magnetic tape handling

Circle No. 8 on Readers Service Card

Roster of Organizations

- Wittek Products Co., 14750 Keswick St., Van Nuys, Calif. 91405 / 213-ST 0-8265 / *C 65
Breadboard kits for electronic designers working on research and development in semiconductor circuitry, computers, and data processing systems / S 3 / E 1948
- Wolf Research & Development Corp., Baker Ave., P. O. Box 36, W. Concord, Mass. 01781 / 617-369-2111 / *C 65
Mathematical analysis and programming services and computer consulting in the fields of aerospace, information retrieval, geodesy, electronics and management systems / S 400 / E 1956
- Write Inc., 420 Lexington Ave., New York 17, N. Y. / 212-LE 2-6171-2 / *C 64
Data processing ribbons / S 50 / E 1923
- Wright Engineering Co., Inc., 180 E. California Blvd., Pasadena, Calif. 91101 / 213-MU 1-2651 / *C 65
Magnetic digital logic components and systems; buffers and storage systems; aerospace timers; magnetic tape transports / S 10 / E 1950
- Wright Line, a div. of Barry Wright Corp., 160 Gold Star Blvd., Worcester, Mass. 01606 / 617-791-0933 / *C 65
Specialists in data handling and filing systems. Data processing accessory equipment, computer department accessories, check handling equipment / S 300 / E 1934
- Wyle Laboratories, 128 Maryland St., El Segundo, Calif. 90246 / 213-OR 8-4251 / *C 65
Digital desk-top calculator; rack-mounted calculator (in-line); digital logic modules (Germanium and Silicon); CRT visual displays; input keyboards / S 600 / E 1949

X

- Xerox Corp., P.O. Box 1540, Rochester, N.Y. 14603 / 716-546-4500 / *C 65
Document copying and reproduction equipment / S 10,000 / E 1906

Y

- Ed Younger & Associates, 8 S. Michigan, Chicago, Ill. 60603 / 312-332-4170 / *C 65
Computer personnel service / S 5 / E 1961

Z

- ZUSE KG, Wehneberger Str. 4, 643 Bad Hersfeld, Germany (West) / 2751 (06621) / Telex 04/93 329 / *C 65
Programmed controlled digital computers, automatic plotters, data handling equipment / S 1200 / E 1949

- END -

a computer
can do this

a Cheshire
can do this



or this



Your data processing system can store address data as well as other information. It can also "print out" these addresses onto continuous forms. A Cheshire machine can apply these address-printed forms as labels to mail pieces automatically, at high speeds. Or it can heat-transfer the address image from the form for a clear black address image. This reduces mailing costs. It also eliminates the need for separate addressing systems and their costly maintenance.

WRITE FOR NEW BROCHURE!

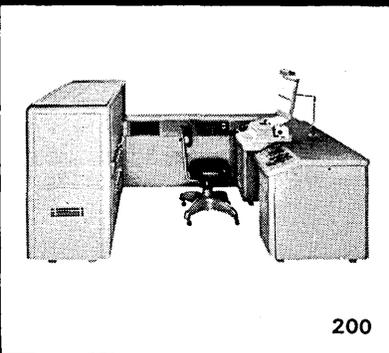
Shows how Cheshire machines apply computer-printed forms. Tells how this reduces mailing costs!



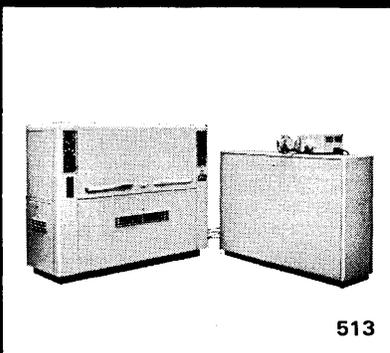
Cheshire
Incorporated

408 Washington Boulevard
Mundelein, Illinois 60060

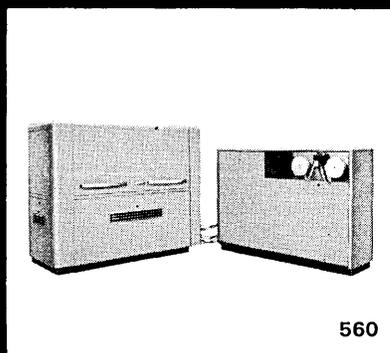
Circle No. 9 on Readers Service Card



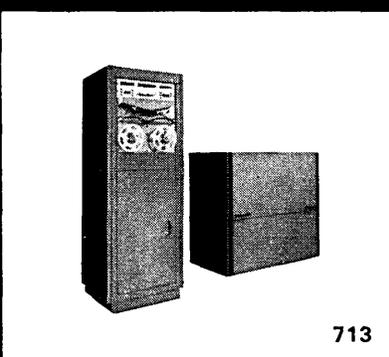
200



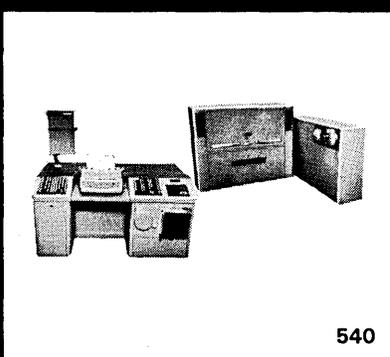
513



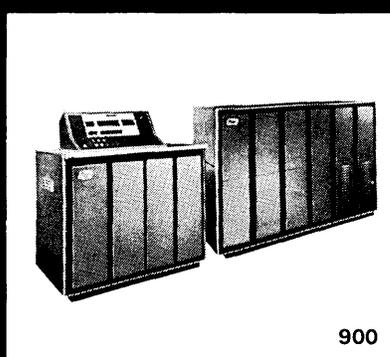
560



713



540



900

LOOK NO FURTHER — COMPUTER PRINTOUT FOR QUALITY AND ECONOMY THROUGH PHOTOTYPESETTING

Admaster 200—time-proved leader for newspaper display advertising

Displaymaster 513—computer-generated display production with consolidated operation

Displaymaster 560—accepts computer-generated eight-level tape as input to phototypesetter

Textmaster 713—high speed, dependable straight matter production — more than 30 newspaper lines per minute

Tapemaster 540 — a photo unit that accepts paper tape produced on separate tape-perforating keyboards — offering advantages of tape control and storage while retaining the versatility of the Photon Admaster

Zip 900—300 to 500 characters per second make Zip the world's fastest producer of quality computer print-out

High speed computer printout is produced with the typographic quality, spacing and flexibility of conventional printing. Upper and lower case characters, proportionally spaced, increases character density. Character availability ranges from 264 to 17,280 images depending on the system that fits your operation.

Resulting economies are less paper, less 'look-up' time and less reading time. Use of italics, bold and light type faces, open or tight space, mathematical or chemical symbols — all mean improved readability, better understanding, better appearance. The output, photographic film or paper, is immediately available for reproduction and distribution.

Photon provides the very best for those who want production and superior quality. Photon leads the industry in research and development and produces proven phototypesetting equipment. Photon product users benefit from features not yet available in competitive units.

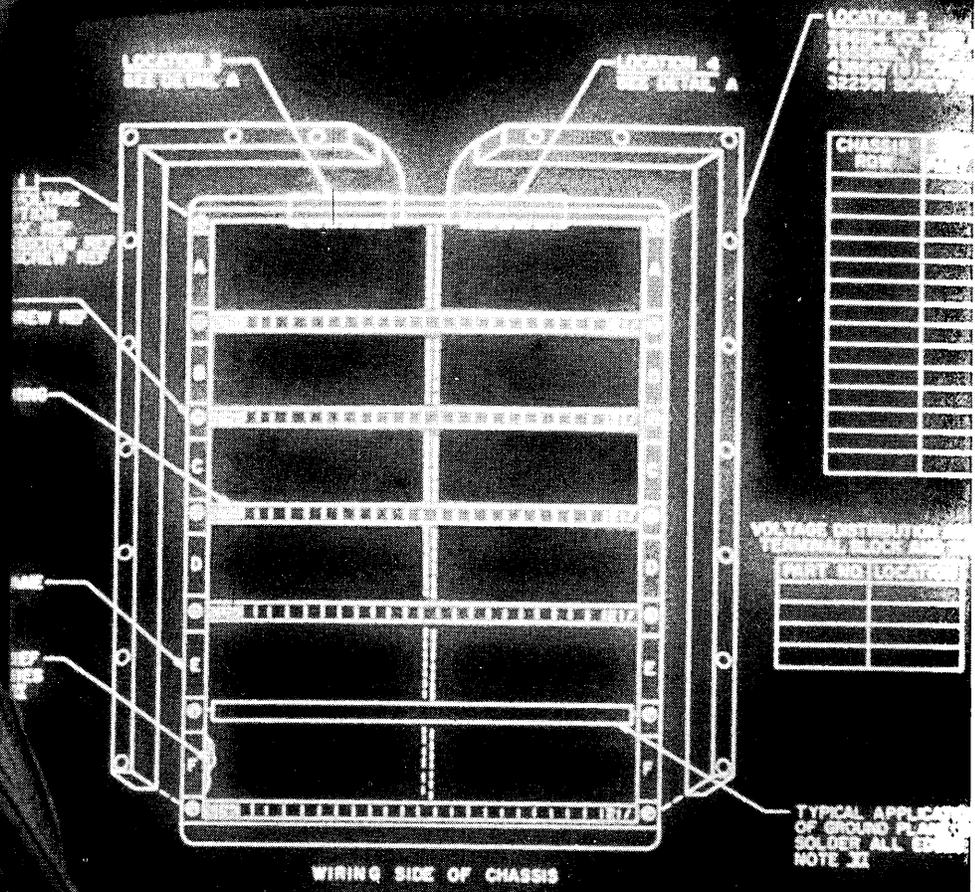
Look to Photon and its product line. Send for Photon information, Photon, Inc., Wilmington, Massachusetts, 01887.



newsmaker in phototypesetting

Circle No. 10 on Readers Service Card

IBM



A revolution in engineering design. Display the design on a "TV" screen. Change values. Try new arrangements. Let IBM's SYSTEM/360 calculate performance, even redraw the design automatically.

SYSTEM/360 can also type, tape, print, punch, draw, photograph or answer a telephone.

No one but IBM offers you so many ways to use a computer.

No other manufacturer makes it so easy to choose and to use a Management Information System sized right for your company.

IBM SYSTEM/360 offers you a choice of eight central processors. Over fifty different units to put information in or get it out of this system. Two kinds of core storage. Two types of visual display units. Four types of direct-access storage. Five types of data communications terminals. And much, much more.

If you are a milk company, you may need only a simple card system

to improve route accounting. We can help you.

If you are a wholesale grocer, you may need small interchangeable direct-access disk storage to keep up to date on inventory. We can help you.

If you are a large manufacturing company, you may need 16 high-speed tapes, 3 billion characters of direct-access storage and high-speed communications with a satellite computer. We can help you.

An engineer may need a visual display that lets him make changes in designs instantly on a cathode ray tube. He may need printed out-

put in the form of graphs or contour maps. He may need only 2,048 words of core storage or over 2 million words.

In any case, we can help him tailor SYSTEM/360 to his needs.

We designed SYSTEM/360 to adapt. When your problems change, you modify the system, you don't abandon it for a new one.

And we don't abandon you. Our people are on call any time they can help you.

They always will be.

SYSTEM/360—The Computer with a Future.

IBM®

BUYERS' GUIDE FOR THE COMPUTER FIELD: PRODUCTS AND SERVICES FOR SALE OR RENT

(Cumulative, information as of April 15, 1965)

The purpose of this roster "The Buyers' Guide for the Computer Field: Products and Services for Sale or Rent" is to give information about the existence and in many cases the properties of every product or service in the computer field that is offered for sale or rent and about which we have received information in 1965 — with certain exceptions as noted below. This is the ninth cumulative edition of this roster.

Kinds of Entries. There are three kinds of entries in this list: full entries; cross reference entries; and name entries. A full entry contains or should contain the following information:

Name of supplier and address / name or identification of product or service / DESCR: a brief description of the product in about 25 words or more / USE: how it is used / price range, and whether for sale or rent.

Every entry is subject to editing.

Cross-reference entries show that a product listed under one product heading is described more fully under another product heading.

Name entries consist of just the name of the organization, listed under the product class.

Corrections. We have tried to make each entry correct to the extent of information in our possession. But it is inevitable that at least some errors have occurred, and we shall be glad to publish corrections.

Exceptions. Certain products and services in the computer field and their descriptions are either not included or only partially included in this Buyers' Guide. For these, please see the following lists located elsewhere in this Directory:

Roster of Electronic Computing and Data Processing Services;
Survey of Consulting Services;
Survey of Software Suppliers;
Descriptions of General Purpose Digital Computers;

Characteristics of General Purpose Analog Computers;
Survey of Special Purpose Computers; and
Roster of School, College, and University Computer Centers.

Questionnaire. Many of the entries in this roster have been derived from answers to questionnaires which we sent out to over 800 suppliers. The entries have been mainly derived from answers given on the "Product Entry Form," which follows:

Product Entry Form for
THE COMPUTER DIRECTORY and BUYERS' GUIDE, 1965

1. Name or identification of product (or service)? _____
2. Brief description? _____
3. How is it used? _____
4. Price range? Between _____ and _____
5. Under what particular heading should it be listed?
(See the 1964 list of headings) _____

Note: Up to 25 words (subject to editing) will be published FREE. If you want more than 25 words published, the charge for up to 50 words (still subject to editing) is \$15.
() Please give us 50 words. Enclosed is \$15.

If you wish to FLAG your entry so that it will be quickly noticed, you can choose CAPITAL LETTERS for the name of YOUR COMPANY and YOUR PRODUCT, and a black ruled line all around your entry so that it is boxed, and the charge is \$20.

() Please FLAG our entry as described. Enclosed is \$20.

Organization _____
Address _____
This data supplied by _____
Title _____ Date _____

LIST OF HEADINGS

As a guide to the products and services offered in the computer field, please refer to the following list of headings under which products and services may be classified. There is some overlapping among these headings; it may be necessary or desirable to look under more than one heading.

A: Adding Machines _____ A1
Amplifiers... _____ A3
 — Magnetic _____ A4
Analog Computers (SEE Computers, Analog)
B: Boards — Plotting _____ B1
 — Plug _____ B2

Breadboard Kits _____ B6
C: Cameras... _____ C3
 — Data Recording _____ C3A
Cards (SEE ALSO Punch Cards) _____ C5
 — Punch _____ C6
 — Magnetic _____ C7
Circuits... _____
 — Arithmetical (for Digital Computers) _____ C9
 — Computer, Packaged _____ C10
 — Logical (for Digital Computers) _____ C11
Communications Systems (Computer Types) _____ C22
Computers (SEE ALSO specific types) _____ C22A
Computers, Analog _____ C23

Computers, Digital	C24	— Diode	M4
Computers, Special Purpose	C24A	— Electronic	M5
Computers, Test Equipment	C25	— Servo	M7
Computer Components (SEE ALSO specific types)	C26	<u>O</u> : Office Machines	O1
Computing Services. . . .	C27	Operations Research	O2
— Digital	C28	<u>P</u> : Panels. . . .	P1
Consulting Services	C30	— Jack	P2
Controls. . . .	C31	— Relay Rack	P3
— Automatic	C32	Paper Tape	P4
— Signaling	C33	Patch Cords	P5
— Sorting and Counting	C34	Plotters (SEE ALSO Boards — Plotting)	P6
Converters, Information. . . .	C39	Plugboards	P6A
— Analog to Digital	C40	Printers. . . .	P9
— Card to Magnetic Tape	C41	— High Speed	P10
— Card to Paper Tape	C42	— Keyboard	P11
— Code	C42A	— Line-a-time	P12
— Digital to Analog	C44	Programming Services	P12A
— Digital to Graphic	C44A	Publications. . . .	P13
— Graphic to Digital	C44B	— Magazines	P15
— Magnetic Tape to Card	C45	Punch Card Accessories	P15A
— Magnetic Tape to Paper Tape	C46	Punch Card Machines	P16
— Magnetic Tape to Magnetic Tape	C46A	<u>R</u> : Readers. . . .	R1
— Paper Tape to Card	C47	— Character	R2
— Paper Tape to Magnetic Tape	C48	— Film	R2.5
Cores. . . .	C50	— Magnetic Card	R3
— Ferrite	C51	— Magnetic Ink	R3.5
— Magnetic	C52	— Magnetic Tape	R4
Counters. . . .	C53	— Paper Tape	R6
— Electronic	C54	— Photoelectric	R7
— Frequency	C55	— Punch Card	R8
— Mechanical	C56	Recording Papers	R9
Courses by Mail (Computer Field)	C58	Registers, Shift	R11
<u>D</u> : Data Processing Accessory Equipment	D0.5	Relays (Computer Types)	R12
Data Processing Machinery (SEE ALSO specific types)	D1	Research	R12A
Data Recording Equipment	D2	Resolvers. . . .	R14
Data Reduction Equipment	D2A	— Coordinate Transform	R15
Delay Lines (Computer Types)	D3	— Product	R16
Desk Calculators	D4	— Sine-Cosine	R17
Differential Analyzers	D6	Robots	R18
Digital Computers (SEE Computers, Digital)		Ribbons, Data Processing	R18A
Discs, Magnetic	D11	<u>S</u> : Scanners	S1
Drums, Magnetic	D12	Servomechanisms	S2A
<u>E</u> : Economic Research	E0	Simulators	S3
Education (SEE ALSO Courses)	E1	Storage Systems. . . .	S4
<u>F</u> : Facsimile Equipment	F1	— Magnetic	S5
Floors	F5	Switches. . . .	S6
Forms, Continuous	F5A	— Stepping	S7
Forms Handling Equipment	F7	Synchros	S8
<u>G</u> : Generators, Function. . . .	G1	Systems Engineering	S9
— Electronic	G2	<u>T</u> : Tape Handlers	T2
— Mechanical	G3	Tape, Magnetic. . . .	T3
<u>H</u> : Heads, Magnetic. . . .	H1	— Filing Systems	T3A
— Reading	H2	— Readers	T4
— Recording	H3	— Recorders	T5
<u>I</u> : Information Retrieval Devices	I2	— Reels	T5A
Information Engineering	I2A	Tape, Paper. . . .	T6
Integrators. . . .	I4	— Filing Systems	T7
— Electronic	I5	— Punches	T8
— Mechanical	I6	— Readers	T9
Inventory Systems	I7	Telemetering Systems	T10
<u>K</u> : Keyboards	K1	Thin-films, Magnetic	T11.2
<u>L</u> : Lights, Indicator	L1	Timing Devices	T11.3
<u>M</u> : Magnetic Ink Imprinting	M1	Transformers. . . .	T12
Memory Systems	M2	— Pulse	T13
Multipliers. . . .	M3	Translating Equipment	T17
		Typewriters, Electric, Controlled	T18
		<u>V</u> : Visual Output Devices	V1

ROSTER

Non-Linear Systems, Inc.

A1. ADDING MACHINES

Approved Business Machines Co., Inc.
 Monroe International, Inc., 550 Central Ave., Orange, N. J. 07051 / Synchro-Monroe punched tape adding machine / DESCR: adding machine that automatically produces punched tape record for computer input during listing operation. Usual printed record is also produced / USE: to generate the data source in systems of business accounting and inventory control / \$1425 to \$2150 / A1
 The National Cash Register Co., Main & K Sts., Dayton, Ohio 45409 / adding machines / DESCR: full line of adding machines provides punched paper tape recording and/or optical font journal printing / - / ? / A1

A3. AMPLIFIERS

Applied Control Co.
 Bryant Computer Products -- see C10
 Burlingame Associates, Ltd.
 Burr-Brown Research Corp.
 Cadre Industries Corp.
 Electro Instruments, Inc.
 Fairchild Controls, Div. of Fairchild Camera and Instrument Corp.
 General Computers, Inc.
 General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div., Andrews Rd., Hicksville, N. Y. 11802 / amplifiers / DESCR: include IF, RF, pulse, video, distribution, isolation, limiting modulator, narrow band, wideband and general purpose / USE: Variety of applications / \$1000 to \$15,000 / A3
 General Radio Co., 22 Baker Ave., W. Concord, Mass. 01701 / amplifiers / DESCR: audio, DC, intermediate-frequency power, radio-frequency, and tuned amplifiers / - / \$95 to \$1150 / A3
 Hewlett-Packard, 1501 Page Mill Rd., Palo Alto, Calif. 94304 / amplifiers / DESCR: AC, DC, data, differential, fast pulse, general purpose, guarded data and differential, operational, power, transducer, wideband / USE: signal amplification and/or circuit isolation / \$165 to \$1000 / A3
 Inductor Engineering, Inc., 117 Schley Ave., Lewes, Del. 19958 / magnetic amplifier / DESCR: large output current changes can be controlled by small voltage changes across control field / USE: servo mechanism systems / \$25 to \$150 / A3
 Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N. J. 07424 / magnetic amplifiers / DESCR: high power gain mag-amps using polarity-reversible dc input, providing amplified phase-reversible ac output to servo motor control phase / USE: drive servo motors / - / A3
 F. B. MacLaren & Co., Inc., 15 Stepar Pl., Huntington Sta., L.I., N.Y. 11746 / packaged servo amplifiers / DESCR: vacuum tube and transistorized, plug-in units employing MS components for military and industrial applications requiring exceptional reliability, performance and life / USE: in precision custom designed servo mechanisms with AC or DC error signals / \$100 to \$350 / A3
 Melcor Electronics Corp.
 Nexus Research Laboratory, Inc., 480 Neponset St., Canton, Mass. 02121 / solid-state encapsulated d-c operational amplifiers / DESCR: highly stable high gain differential d-c amplifiers. Fully input protected and output short circuit proof. Available with MIL/NASA capability. Five package sizes. Also booster and fast feedback amplifiers / USE: circuit applications involving inverse feedback supplied via external networks / \$35 to \$175 / A3

PHILBRICK RESEARCHES, INC., Allied Dr. at Route 128, Dedham, Mass. 02026 / OPERATIONAL AMPLIFIERS / DESCR: Philbrick manufactures the world's most advanced line of differential and chopper-stabilized operational amplifiers. A chart showing comparative listings of pertinent specifications is available upon request / USE: measuring, instrumentation and control, analog computing, current-to-voltage and voltage-to-current transduction / \$35 to \$227 / A3

Potter Instrument Co., Inc.
 Sperry Farragut Co.
 Systems Engineering Laboratories, Inc., P.O. Box 9148, Fort Lauderdale, Fla. 33310 / model 9016 amplifier / DESCR: model 9016 is a wide band d.c. instrumentation amplifier, designed for use in systems where highest accuracy is required / USE: as above / - / A3
 Systems Engineering Laboratories, Inc., *a / model 9018 solid state amplifier / DESCR: model 9018 is a d.c. operational amplifier designed to meet requirements of space vehicular guidance simulators using an analog computer / - / - / A3
 M. Ten Bosch, Inc.
 Torotel, Inc., 5512 E. 110th, Kansas City, Mo. 64137 / manufacturer of electronic components / DESCR: magnetic amplifiers, delay lines, pulse transformers, filters, toroidal inductors, chokes, miniature transformers / - / by quotation only / A3

A4. AMPLIFIERS, MAGNETIC

Airpac Electronics, Inc.
 Astrodats Inc.
 Controlmag Laboratories
 General Electric Co., Electronic Components Sales Operation
 Inductor Engineering, Inc., -- see A3
 Kearfott Div., General Precision, Inc. -- see A3

B1. BOARDS, PLOTTING

Benson-Lehner Corp.
 Westgate Laboratory, Inc.

B2. BOARDS, PLUG

The Acratod Co. -- see T3A

B6. BREADBOARD KITS

Dayton Electronic Products Co., Inc.
 Digital Equipment Corp., 146 Main St., Maynard, Mass. / digital laboratory system / DESCR: digital-logic training device and design tool built around a line of computer circuit packages with both integrated and discrete components / USE: desktop unit allows designers or students to build a complete, operating digital system / \$500 to \$1000 / B6
 The Roback Corp., Huntington Valley, Pa. 19006 / digital breadboarding equipment / DESCR: digital logic breadboarding kits, Facilogic® / USE: experimental systems / \$1075 to \$2000 / B6
 Vector Electronic Co., Inc., 1100 Flower St., Glendale, Calif. 91201 / breadboard kits / DESCR: tube socket and transistor kits complete with prepunched boards, frames, solderless and solderable terminals, sockets, mounting hardware and brackets / USE: experimenters' and designers' breadboarding / \$6.25 to \$19.50 / B6
 Wittek Products Co.

C3. CAMERAS

Eastman Kodak Co.
 General Atomics Corp. -- see C25
 Giannini Scientific Corp., Richmond Div., P. O. Box 1-F, Richmond, Va. 23201 / flight research photo instrumentation equipment / DESCR: 16, 35 & 70 mm equipment of standard and special designs to meet computer display recording requirements. 27 ms. individual pulse frame separation available along with large formats. / USE: oscilloscope, television and electronic display recording / \$18,000 to \$20,000 / C3
 Philips Electronic Instruments
 Westgate Laboratory, Inc.

C3A. CAMERAS, DATA RECORDING

Century Electronics & Instruments, Inc.
 Giannini Scientific Corp., Richmond Div. -- see C3

C6. CARDS, PUNCH

E-Z Sort Systems, Ltd.

C9. CIRCUITS, ARITHMETICAL (FOR DIGITAL COMPUTERS)

Corning Glass Works, 3900 Electronics Drive, Raleigh, N.C. / microcircuits, thin film / DESCR: thin film tin oxide resistors on glass / ceramic substrate @ deposited capacitors and chips / USE: suited for high volume, high reliability, economy / depends on circuit complexity and quantity / C9
 Dayton Electronic Products Co., Inc.
 Digital Equipment Corp., 146 Main St., Maynard, Mass. / digital system modules / DESCR: over 400 different types of solid state digital circuit modules in 3 compatible frequencies (500 KC, 5MC, and 10MC) / USE: specially packaged for systems design, test, and construction applications / \$30 to \$348 / C9
 Digital Equipment Corp., *a / FLIP CHIP modules / DESCR: computer circuit packages with both integrated and discrete components. Packaged on 5/8 by 2 1/2 printed circuit boards. Low cost / USE: simple counters and adders to full scale computing systems / \$5 to \$100 / C9
 Digital Equipment Corp.; *a / laboratory and educational modules / DESCR: fully coordinated series of transistorized digital computer circuits packaged in "building block" form. 3 compatible frequency ranges; 500 KC, 5MC and 10MC / USE: educational and industrial training, as well as, practical digital systems test and design work / \$41 to \$160 / C9
 Electropac, Inc.
 International Electronic Research Corp., 135 W. Magnolia Blvd., Burbank, Calif. / module circuit packages / DESCR: welded micro-module circuit packages / USE: - / \$10 to \$300 / C9
 Norden Div. of United Aircraft Corp.
 Scientific Data Systems, Inc., 1649 17th St., Santa Monica, Calif. / digital circuit modules / DESCR: over 100 different modules in three compatible frequency ranges: 300 KC, 1 MC, 8 MC. Line includes flip-flops, decision elements, timing sources, and auxiliary modules / USE: complete range of digital systems applications / \$36 to \$200 / C9

C10. CIRCUITS, COMPUTER, PACKAGED

Applied Control Co.
 Bryant Computer Products, Div. of Ex-Cel-0 Corp., 850 Ladd Rd., Walled Lake, Mich. 48098 / electronic circuit modules / DESCR: available to perform all of the read, write, clocking, head

switching and logic functions required of a magnetic drum or disc file system. Transistorized printed circuits / USE: building block in designing magnetic drum and disc file systems / \$75 to \$750 / C10
 Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass. / digital logic modules / DESCR: designs, develops, manufactures digital logic modules and digital systems. Once the logic is designed, CAMBION modules are directly usable / USE: industrial systems, computer and military applications / \$3.15 to \$40 / C10
 Continental Connector Corp.
 Corning Glass Works -- see C9
 Dialight Corp.
 Digital Equipment Corp. -- see C9
 Electropac, Inc.
 General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div., Andrews Rd., Hicksville, N. Y. 11802 / general and special purpose computational and data processing systems and equipment / DESCR: microelectronic digital data processor and controller for unmanned space exploration; large scale solid state modular system for data acquisition, processing, recording and display / USE: variety of informational handling systems involving analog and digital processes / various / C10
 International Electronic Research Corp. -- see C9
 Norden Div. of United Aircraft Corp.
 Scientific Data Systems -- see C9
 Sperry Farragut Co.

C11. CIRCUITS, LOGICAL (FOR DIGITAL COMPUTERS)

Applied Control Co.
 Bryant Computer Products -- see C10
 Burroughs Corp., Electronic Components Div., P. O. Box 1226, Plainfield, N.J. 07061 / hybrid circuits / DESCR: custom hybrid circuits containing resistors, capacitors and single-sided glassivated semiconductors on ceramic substrates / USE: microminiature circuit applications / - / C11
 Cambridge Thermionic Corp. -- see C10
 Control Logic, Inc., 3 Strathmore Rd., Natick, Mass. 01762 / digital circuit cards and welded modules / DESCR: welded encapsulated digital circuit modules, open circuit and module cards. Germanium and silicon circuits, DC to 50 MC / - / \$5.50 per flipflop / \$90 per flipflop / C11
 Corning Glass Works -- see C9
 Dayton Electronic Products Co., Inc.
 Decision Control, Inc., 1590 Monrovia Ave., Newport Beach, Calif. / VersaLOGIC / DESCR: high density, low power, solid state printed circuit plug-in logic and D/A modules specifically developed for Hi-Rel digital systems applications / USE: digital and hybrid system component / \$50 up / C11
 Delco Radio Div., General Motors Corp.
 Dialight Corp.
 Digital Equipment Corp. -- see C9
 Electropac, Inc.
 General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div. -- see C10
 International Electronic Research Corp. -- see C9
 Motorola Semiconductor Products, Inc., 5005 E. McDowell Rd., Phoenix, Ariz. / logical circuits / DESCR: integrated circuits: ECTL, RTL, DTL types / USE: gates, flip-flops, half-adder, bias regulator, gate expander / \$2 to \$50 / C11
 Norden Div. of United Aircraft Corp.
 Raytheon Co., Semiconductor Div. Redcor Corp.
 The Roback Corp., Huntington Valley, Pa. 19006 / digital logic circuits / DESCR: encapsulated

Products and Services

- digital logic modules, Flexi-Card® circuit boards, welded modules and assemblies / logic for complete systems / \$4 to \$100 / C11
- Sanders Associates, Inc. Scientific Data Systems -- see C9
- Solid State Electronics Corp. Systems Engineering Laboratories, Inc., P. O. Box 9148, Fort Lauderdale, Fla. 33310 / micrologic circuit cards / DESCR: designed to eliminate the interconnection problem inherent in bread boarding or system construction using micrologic elements / - / - / C11
- Systems Engineering Laboratories, Inc., *a / standard digital circuit cards / DESCR: family of five cards containing all logic required to implement the design of most digital systems, flip-flop, 2 input NOR, buffer and one-shot / - / - / C11
- Wright Engineering Co., Inc. Wyle Laboratories, 128 Maryland St., El Segundo, Calif. 90246 / logical circuits (for digital computers) / DESCR: complete selection of Germanium and Silicon logic modules includes flip-flops, gates, inverters, decoders, drivers, one-shots, etc. Mounting hardware and power supplies also available / USE: for special data handling, computing and timing devices / \$18 to \$75 / C11
- C22. COMMUNICATIONS SYSTEMS (COMPUTER TYPES)**
- Cadre Industries Corp. Control Data Corp. -- see C24
- Data Systems Inc., 10700 Puritan Ave., Detroit, Mich. 48238 / DSI-1000 communications system / DESCR: complete automatic dialing capability between computers. Accepts data via phone lines, converts to compatible code, then inputs data to large system or plots graphically / USE: data communications link / \$12,000 to \$30,000 / C22
- Data Trends, Inc., 1259 Route 46, Parsippany, N. J. 07054 / DTI 100 universal buffer / DESCR: handles 100 telegraph data lines, or other data channels, simultaneously. Functions: code and format conversion, line identification, I/O timing, communication line monitoring. Built-in error control / USE: on-line to computer / - / C22
- Data Trends, Inc., *a / MIMO (Man In - Machine Out) / DESCR: remote input/output terminal. Noiseless, desk-size, real-time device provides direct communication with central processor over telegraph or voice grade facilities. Verified input, printed output / USE: on-line to computer / - / C22
- Digitronics Corp. EDP Management, Inc., P. O. Box 393, New York, N. Y. 10008 / programming and systems design / DESCR: core to core, high speed and low speed transmissions programmed. Automatic checking, code conversions, priority cascaded interrupts, "executives", etc. / - / \$15 to \$45 per hr. / C22
- EDP Management, Inc. -- see P12A, R12A
- Executone, Inc., 47-37 Austell Place, Long Island City, N. Y. 11101 / executone electronic communication systems / DESCR: intercom, sound, signalling, voice paging and pocket page systems. Help speed work flow, increase productivity / USE: instant internal communication / - / C22
- G-E Communications Products Dept. General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div., Andrews Rd., Hicksville, N. Y. 11802 / communications systems / DESCR: wide variety of communications systems utilizing analog and/or digital information / USE: for any custom application / various / C22
- Lenkurt Electric Co., Inc. Mellonix Systems Development Div. of Litton Systems, Inc., 505 W. Olive Ave., Sunnyvale, Calif. 94086 / data control complexes / DESCR: design, development and implementation of ground data handling networks and communications networks / USE: for satellite systems, transportation systems, industry, government agencies, etc. / - / C22
- Omnitronics, Inc., 511 North Broad St., Philadelphia 23, Pa. / communication terminals / DESCR: OMNI-DATA communication terminals provide high performance paper tape communication system / USE: capable of interfacing into standard communication media / \$2000 to \$20,000 (unit quantity) / C22
- Parzen Research, Inc. Philco Corp. Quindar Electronics Inc. -- see S1 and T10
- RCA Electronic Data Processing -- see C24
- Rixon Electronics, Inc., 2121 Industrial Pkwy., Silver Spring, Md. 20904 / digital data modems / DESCR: transmits serial digital data up to 4800 bits per second over wireline networks. Includes sebit-12M (1200 BPS), sebit-24B and 24M, sebit-36M, sebit-48M, and sebit-dual 12 (two 1200 BPS serial streams over one voice channel) / USE: digital data transmission / - / C22
- Robertshaw Controls Co. TELautograph Corp. Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N. J. 07631 / Datatone / DESCR: provides multiple channels for low-speed data or teletype on a single voice grade communications link. Voice plus data or teletype systems available / USE: computer to readout device / \$300 to \$450 / C22
- Union Switch & Signal Div. of Westinghouse Air Brake Co.
- C22A. COMPUTERS**
- Approved Business Machines Co., Inc. Autonetics Div., North American Aviation, Inc., 3370 Miraloma Ave., Anaheim, Calif. 92803 / computers and data systems / DESCR: general-purpose digital computers, special-purpose digital analyzers, digital differential analyzers, special-purpose analog computers / USE: military and aerospace applications / varies with contracts / C22A
- Butler Roberts Associates, Inc., Sub. of Oki Electronics of America, Inc., 500 S. E. 24 St., Ft. Lauderdale, Fla. 33316 / OKITAC computer systems and peripheral equipment / DESCR: high-speed line printers to 1000 lpm; input/output print-out devices (both off line and on line) tape transport and associated mechanisms; etc. Converters, card to tape, tape to card, etc. / USE: EDP / competitive / C22A
- CAE, Compagnie Européenne d'Automatisme Electronique Clary Corp. Comcor, Inc., 1335 S. Claudina, Anaheim, Calif. / computers / DESCR: CI-5000 hybrid computing systems; a general purpose scientific computing system expandable to meet large facility requirements. CI-150 desk type analog computer, medium size, mobile / USE: solve real time and iterative integro-differential equations / \$10,000 to \$1,500,000 / C22A
- Control Data Corp., Control Systems Div. Cyber-tronics, Inc., 915 Broadway, N. Y., N. Y. 10010 / rental, sale, purchase and maintenance of computers and data processing equipment / DESCR: purchases, rebuilds, sells and rents computer systems. Purchases and leases back installed computers and punch card machines / service / - / C22A
- Digital Equipment Corp., 146 Main St., Maynard, Mass. / LINC computer / DESCR: small, general purpose computer. Programs prepared in simplified symbolic language. Built-in oscilloscope presents words, numbers and graphical displays of incoming or processed data / USE: biomedical research laboratory for virtually any problem for which a program can be prepared / \$42,000 up / C22A
- Digital Equipment Corp., *a / PDP-1 computer / DESCR: general purpose, solid state, computer. Computation rate, 100,000 additions per second and controls simultaneously large variety of peripheral devices. Single address, single instruction, stored program with 18-bit word length / USE: ranges from scientific on-line experimentation to real-time process control / \$120,000 up / C22A
- Digital Equipment Corp., *a / PDP-4 computer / DESCR: single address, parallel, binary computer, with 18-bit word length. General purpose with random access magnetic core memory. 8 microseconds cycle time. Operates with variety of peripheral devices / USE: ranges from scientific on-line experimentation to real-time process control / \$60,000 up / C22A
- Digital Equipment Corp., *a / PDP-5 computer / DESCR: small scale general purpose computer; one-address; fixed word length; parallel computer using 12 bit, 2's complement arithmetic. Magnetic core memory with cycle time of 6 microseconds / USE: independent information handling facility in larger computer system, as control element in larger systems / \$25,000 up / C22A
- Digital Equipment Corp., *a / PDP-6 computer / DESCR: medium-sized system with large machine features: 16 accumulators and 15 index registers, and provision for great expansion. System elements interconnected by busses, and operate asynchronously / USE: very high capacity scientific data processing and time sharing / \$250,000 up / C22A
- Digital Equipment Corp., *a / PDP-7 computer / DESCR: high-speed, solid state, single address, fixed 18-bit word length, binary computer. Random access magnetic core memory with complete cycle time 1.75 microseconds and computation rate of 285,000 additions per second / USE: scientific lab., computing center, or the real-time process control system / \$45,000 up / C22A
- Digital Equipment Corp., *a / PDP-8 computer / DESCR: compact but complete general-purpose computer. High-speed, random access, magnetic core memory. Binary operations on 12- or 24-bit 2's complement numbers. Cycle time 1.6 microseconds / USE: scientific computation, system and control applications, on-line data collection and reduction / \$18,000 up / C22A
- E-A Industrial Corp. -- see D2A
- Electronic Associates Inc. English Electric-Leo-Marconi Computers Ltd., Kildsgrove, Stoke-on-Trent, Staffs, England / data processing computers / DESCR: KDN2, KDF7: industrial on-line process control. Custom built process controllers and data logging equipment. KDF7, medium sized and KDF9, large-scale, general purpose computers. KDF8, Leo3, Leo 360, Leo 326: large-scale commercial / USE: commerce, industry and science / prices of all equipment given on application / C22A
- Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N. J. 07424 / analog computers / DESCR: specialized electromechanical computer for aircraft, missiles, submarines, etc. / USE: navigation, air and ground speeds, integrations, gimbal error / - / C22A
- Kearfott Div., General Precision, Inc., *a / AN/ASN-24 (V) computer set / DESCR: general-purpose airborne digital computer system / USE: real-time computation and control. Automatic navigation / - / C22A
- L. A. Pearl Co. RCA Electronic Data Processing -- see C24
- C23. COMPUTERS, ANALOG**
- American Hydromath Co. -- see C24A
- Approved Business Machines Co., Inc. Argonaut Associates, Inc., P. O. Box K, Beaverton, Ore. / analog computing recorder / DESCR: addition, subtraction, multiplication, division, integration and double integration with respect to time or with respect to a third independent variable / USE: power computation and integration with time; partial integration between limits / \$375 for electronics; \$2500 for recorder / C23
- Astrodata Inc. Autonetics Div., North American Aviation, Inc. -- see C22A
- Burlingame Associates, Ltd. Comcor, Inc. -- see C22A
- Consolidated Electrodynamics Corp. Control Data Corp., Control Systems Div. The G. C. Dewey Corp. Dian Laboratories, Inc. Electronic Associates Inc. Evershed & Vignoles Ltd. -- see C24A
- General Computers, Inc. GPS Instrument Co., 188 Needham St., Newton, Mass. 02164 / GPS 200T / DESCR: compact solid state computer featuring real-time, compressed time and hybrid operation. Based on full output band width to over one megacycle per second / USE: general purpose; hybrid / \$20,000 to \$70,000 / C23
- GPS Instrument Co., *a / GPS 1000 / DESCR: general purpose analog computer with hybrid capability, expandable to over 300 computing elements. Features high speed operation for iterative and statistical computation / USE: general purpose; hybrid / \$50,000 up / C23
- Hagan Controls Corp., a subsidiary of Westinghouse, 250 Mt. Lebanon Blvd., Box 11606, Pittsburgh, Pa. 15228 / analog computers / DESCR: PowMag magnetic and optima transistorized analog computers are industrial grade control computers used for process control applications. PowMag line features field flexibility with amplifier and system patchboards / USE: process control / \$1000 to \$250,000 per system / C23
- Heath Co. Kearfott Div., General Precision, Inc. -- see C22A
- Leeds & Northrup Co. Loral Electronic Systems, a division of Loral Corp. F. B. McLaren & Co., Inc., 15 Stepar Pl., Huntington Sta., L. I., N. Y. 11746 / analog computers / DESCR: custom designed precision electro-mechanical systems to perform specific mathematical operations in military and industrial computer applications / USE: data conversion - voltage to position, velocity, voltage, etc. / - / C23
- Pastoriza Electronics, Inc.
- PHILBRICK RESEARCHES, INC.**, Allied Dr. at Route 128, Dedham, Mass. 02026 / ANALOG COMPUTING COMPONENTS / DESCR: active and passive components for analog computing and data processing, including operational amplifiers, multiplier, squaring and rooting components, logarithmic transconductors, analog gate circuits, etc. / USE: for modelling, measuring, manipulating, and much else / \$70 to \$1565 / C23
- Procedyne Corp., 221 Somerset St., New Brunswick, N. J. 08903 / transputer / DESCR: special purpose computer which computes the Fourier transformer / USE: data analysis / \$4500 to \$10,000 / C23

Products and Services

ROTRON MANUFACTURING CO., INC.,
Hasbrouck Lane, Woodstock, N. Y.
12498 / CARAVEL FAN / DESCR: high performance, 10" propeller fan only 3/4" deep. Delivery up to 575 cfm of cool, equipment protecting air. Available with 115 vac or 230 vac, 50-60 cps, single phase / USE: computers / \$16 to \$26 / C23

ROTRON MANUFACTURING CO., INC., *a
/ FANS AND BLOWERS / DESCR: complete line of highly reliable and efficient equipment; protecting fans and blowers and air handling devices designed specifically for the computer industry / USE: in all types of computers / \$6.85 to \$165 / C23

ROTRON MANUFACTURING CO., INC., *a
/ MARK 4 MUFFIN FAN / DESCR: small, compact, 4 1/16" square by 1 1/2" deep propeller fan. Delivery 100 cfm. Designed for continuous duty up to ten years. Highly reliable, low cost / USE: cooling card chassis, computers, power supplies, etc. / \$6.85 in quantity, \$13.70 single units / C23

Seismograph Service Corp.
Societe d'Electronique et d'Automatisme
Sperry Farragut Co.
Sperry Gyroscope Co.

C24. COMPUTERS, DIGITAL

AC Spark Plug Div.
Advanced Scientific Instruments, Div. of EMR

Approved Business Machines Co., Inc.

Autonetics Div., North American Aviation, Inc. -- see C22A

Bailey Meter Co., 29801 Euclid Ave., Wickliffe, Ohio 44092 / digital computers / DESCR: computer systems designed specifically for on-line process requirements / USE: for information, computation and control / - / C24

The Bunker-Ramo Corp., 277 Park Ave., New York, N. Y. / 130 computer / DESCR: general purpose, stored logic structure, 15 bit word with 6 microsecond memory. Memory range, 8000 to 32,000 words. Program compatible with Bunker-Ramo 133 / USE: general scientific, military and business / - / C24

The Bunker-Ramo Corp., *a / 133 computer / DESCR: general purpose, stored logic structure, 15 bit word, 2 microsecond, memory range 8000 to 32,000 NATDS compatible. Available with usual peripheral gear MIL spec construction / USE: general scientific, military and business / - / C24

The Bunker-Ramo Corp., *a / 133 computer / DESCR: general purpose, stored logic structure, 15 bit word, 2 microsecond, memory range 8000 to 32,000 NATDS compatible. Available with usual peripheral gear MIL spec construction / USE: general scientific, military and business / - / C24

The Bunker-Ramo Corp., *a / 335 computer / DESCR: high speed, low cost, general purpose computer. 16 bit words, 4000 to 16,000 word core memory. 1.7 microsecond core access / USE: control computer, real-time on-line processing and switching / \$30,000 to \$75,000 / C24

The Bunker-Ramo Corp., *a / 340 computer / DESCR: general purpose computer, 28 bit word, 6 microsecond storage access time, 4000 to 65,000 word memory. Priority interrupt with 112 levels, available with standard peripheral gear / USE: process control systems applications and other business applications / - / C24

The Bunker-Ramo Corp., Industrial Control Systems, 8433 Fallbrook Ave., Canoga Park, Calif. 91304 / Bunker Ramo 335 control computer system / DESCR: fast, low cost, industrialized, flexible system / USE: for on-line,

real-time data acquisition and control applications / - / C24
Burrhoughs Corp.

Cognitronics Corp., 549 Pleasantville Rd., Briarcliff Manor, N.Y. / computer / DESCR: line of general purpose computers oriented to the graphic arts industry / USE: processing and reorganizing punched idiot tape / \$30,000 to \$65,000 / C24
Cohu Electronics, Inc., Kin Tel Div.

Comcor, Inc. -- see C22A
Control Data Corp., 8100 34th Ave., So., Minneapolis, Minn. 55440 / digital computer systems / DESCR: advanced systems including full range of I/O devices, programming systems and services / USE: computing, data processing and control applications in science, industry, government, etc. / \$18,000 to \$5,500,000 / C24

Control Equipment Corp., 19 Kearney Rd., Needham Heights, Mass. 02194 / digital data processing systems / DESCR: special purpose digital systems / USE: research, engineering, and industrial applications / C24
Control Logic, Inc. -- see C24A

Data Machines, Inc., 1590 Monrovia Ave., Newport Beach, Calif. / DATA 600 series gp digital components / DESCR: complete line of small to medium size stored program scientific digital computers / USE: education, scientific computation, system component / \$10,000 up / C24

Data Systems Inc., 10700 Puritan Ave., Detroit, Mich. 48238 / DSI-1000 digital computer / DESCR: general purpose, real-time, stored program. Clock, 7.6mc.; cycle, 3.2usec; operations, 320,000/sec. Instructions, 3584 arithmetic, 4 control. Memory, 256 to 2048 (12-bit) words. First standard relay rack / USE: communications, data processing, data conversion / \$9980 to \$19,980 / C24

The G. C. Dewey Corp.
Digital Equipment Corp. -- see C22A

N. V. Electrologica, 214 Stadhoudersplantsoen, The Hague, The Netherlands / EL X2 - EL X5 digital computers and peripherals / DESCR: magnetic core memory 4,096 - 32,768 words of 27 bits excl. 1 parity bit, cycle time 5 mms; time sharing and interrupt features; EL X3/5, floating point arithmetic; EL X4/5, backing store possibilities (drums and disks) / USE: general purpose machine / af 240,000 (maximum depends on desired peripheral equipment) / C24

N. V. Electrologica, *a / EL X8 digital computer and peripherals / DESCR: magnetic core memory 16,384 - 262,144 words of 27 bits excl. 1 parity bit, cycle time 2.4 mms; backing store; magnetic core to 131,072 words (cycle time 10 mms), drum (524,288 words), disks (7,200,000 wpu); extensive interrupt and sharing features for autonomous transport of information to and from peripherals over at most 4 storage access channels / USE: general purpose machine / min. of 1.2 million (max. depends on desired peripheral equipment) / C24

Electro-Mechanical Research, Inc.
Electronic Associates Inc.
Electronic Memories, Inc. -- see C51 and M2

Electronic Memories, Inc., 12621 Chadron Ave., Hawthorne, Calif. 90250 / core memory systems / DESCR: aerospace memories for severe environments; memories for commercial, industrial and scientific use; large capacity memories; serial and random access memories / USE: systems applications / on request / C24

English Electric-Leo-Marconi -- see C22A
General Precision, Inc., Librascope Group, 808 Western Ave., Glendale, Calif. / L-2010 computer / DESCR: rugged, digital computer / USE: shipboard navigation, artillery fire control

and other field applications / \$30,000 to \$40,000 / C24
Honeywell Electronic Data Processing Div., 60 Walnut St., Wellesley Hills, Mass. 02181 / series 200 / DESCR: series of five fully compatible, highly flexible data processing systems. Modular units of speed, memory capacity, computing capability, and peripheral performance can be combined to match specific requirements exactly / USE: for business data processing applications, plus those requiring mixed business-scientific capabilities and/or real time and communications capabilities / \$2500 to \$25,000 per month rental / C24

Honeywell, Inc., Special Systems Div., Queen & So. Bailey Sts., Pottstown, Pa. 19464 / H20 digital control system / DESCR: low-cost, real-time system with 18-bit word and 1.75 microseconds cycle time. System has parallel I/O channels and 16 priority hardware interrupts / USE: on-line industrial control and scientific computations / \$18,000 to \$200,000 / C24

Honeywell, Inc., Special Systems Div., *a / H610 digital computer system / DESCR: general purpose digital computer with 24-bit word 8-microsecond cycle time. System has multiple external interrupts, multiple I/O buffers, and serial/parallel internal operations / USE: on-line industrial control and scientific computations / \$40,000 to \$300,000 / C24

International Computers & Tabulators, I.C.T. House, London, S. W. 15, England / computer peripheral equipment / DESCR: type 582 output punch, 100 cards per minute; type 424 interpreter, 40 columns per second; type 314 sorter, 1000 cards per minute / - / - / C24

Itek Corp. -- see M2
Kearfott Div., General Precision, Inc. -- see C22A
Leeds & Northrup Co.
Link Group, General Precision, Inc.
Loral Electronic Systems, a div. of Loral Corp.

Monrobot Computer Systems Div., Monroe International, Inc., 550 Central Ave., Orange, N.J. 07051 / Monrobot XI desk-sized general purpose computer / DESCR: small-scale computer for business and scientific use that requires no air-conditioning or special skills to operate and may be installed by plugging into an ordinary electrical outlet / USE: wide variety of packaged programs for business such as hospitals, bakeries, dairies; also general business programs such as payroll processing, business accounting, merchandise control, sales analysis / Base price for operating unit \$24,500; basic monthly rental \$700 / C24

National Computer Analysts, Inc., U. S. Highway 1, Lynwood Dr., Princeton, N.J. 08540 / data processing / DESCR: processing of our programs at our datacenter; you may write the programs yourself, or have us prepare them for you / - / \$60/hour to \$110/hour / C24

Nortronics Div., Northrop Corp., 1 Research Park, Palos Verdes Peninsula, Calif. 90274 / NDC-1000 / DESCR: general purpose; 35 pounds; .66 cf; 89.5 watts; 60 instructions; 65,000 word memory; 24-bit word length; militarized / USE: airborne or mobile uses / - / C24

Nortronics Div., Northrop Corp., *a / NDC-1025 / DESCR: large scale militarized; 94 pounds; 1.3 cf; 2250 watts; 48-bit word length, plus 8 parity bits; 128,000 word memory / USE: for command and control information systems. Airborne or module / - / C24

Nortronics Div., Northrop Corp., *a / NDC-1050 / DESCR: general purpose; mobile; militarized; 14 pounds; .39 cf; 63 watts; MTF of 2700 hours; 22 instructions; word length, 20 bits; parallel memory / USE: airborne or

mobile uses / - / C24
Pacific Data Systems, Inc., 1058 E. First St., Santa Ana, Calif. 92701 / PDS 1020 / DESCR: general purpose computer designed for direct access by engineers as an engineering/scientific problem solving tool. Numeric keyboard, 50 ch/sec tape I/O, selectric, standard equipment / USE: interpreter mode, machine language or special purpose software / \$21,500 to \$25,050 / C24

Pacific Data Systems, Inc., *a / PDS 1068 / DESCR: rack mounted, general purpose digital computer. Parallel and serial I/O channels, hardware indexing, register display, 45 commands, 4 sense switches and 4 external sense lines / USE: for special purpose applications in checkout, data logging and process control / \$15,500 to \$21,500 / C24

Pastoriza Electronics, Inc.
Philco Corp.
Raytheon Computer, 2700 S. Fairview St., Santa Ana, Calif. 92704 / 250 computer / DESCR: small scale solid state digital computer. 60 commands, executes up to 40,000 wps; wide range of peripheral equipment, including magnetic tape, paper tape, punched cards / USE: scientific, engineering and real-time data systems applications / \$23,500 for basic computer / C24

Raytheon Computer, *a / 520 computer / DESCR: medium-scale, parallel digital computer. Advanced high-speed circuitry (1 microsecond for 45 of its 64 commands). Memory time 2 microseconds. Can be equipped with 200 nanosecond non-destructive readout memory / USE: scientific, engineering and real-time data systems applications / starts \$9400 / C24

RCA Electronic Data Processing, Cherry Hill, Camden 8, N.J. / RCA 301 / DESCR: medium-scale computer; modularly-expandable, large memory capacity, simultaneity, multiple input/output media / USE: broad general-purpose applications; can be used as a satellite / average monthly rental: \$4785 / C24

RCA Electronic Data Processing, *a / RCA 501 / DESCR: general purpose medium-scale digital data processor / USE: broad general-purpose applications / average monthly rental: \$10,500 / C24

RCA Electronic Data Processing, *a / RCA 601 / DESCR: large-scale general purpose computer; memory cycle of 1.5 microseconds / USE: automatic control of time sharing permits simultaneous operation of many peripheral devices / average monthly rental: \$29,665 / C24

RCA Electronic Data Processing, *a / RCA 3301 / DESCR: all-purpose, stored program digital computer; has 250 nanosecond scratchpad micro-magnetic memory, multi-level simultaneity, comprehensive software / USE: communications, real-time, scientific and general business / average monthly rental: \$15,735 / C24

Rotron Manufacturing Co., Inc. -- see C23 and T2
Scientific Data Systems, Inc., 1649 17th St., Santa Monica, Calif. / SDS 92, 910, 920, 925, 930, 9300 / DESCR: high-speed general purpose digital computers. Complete set of software and peripheral equipment / USE: scientific and engineering applications and real-time systems integration / \$29,000 to \$150,000 / C24

Societe d'Electronique et d'Automatisme
Sperry Gyroscope Co.
Systems Engineering Laboratories, Inc., P.O. Box 9148, Fort Lauderdale, Fla. 33310 / model 810 digital computer / DESCR: general purpose high speed 16-bit fully parallel binary computer; utilizing integrated circuit micrologic throughout / - / - / C24

Systems Engineering Laboratories, Inc., *a / model 820 digital computer / DESCR: general purpose or scientific, 24-bit plus parity, serial binary, memory

Products and Services

4096 words expandable to 16,384 words / USE: closed loop direct digital process control / - / C24
Systems Engineering Laboratories, Inc., *a / model 840 digital computer / DESCR: high speed 24-bit binary parallel computer, 1.75 microsecond memory cycle time. Constructed of integrated circuit micrologic / USE: real-time data processing system element / - / C24

3 M Co., Instrument Dept. -- see C32
UNIVAC Div. of Sperry Rand Corp. Wang Laboratories, Inc., 836 North St., Tewksbury, Mass. / LOGI LOGarithmic Computing Instrument / DESCR: desk-top computer for operations and iterative functions from keyboard or card program / - / \$2750 to \$7500 / C24
Wyle Laboratories, 128 Maryland St., El Segundo, Calif. 90246 / arithmetic processor model AP-01 / DESCR: externally programmed arithmetic unit for systems applications. Compatible with virtually all digital I/O devices / USE: in data processing and control systems / \$3450 to \$5000 (with manual keyboard and visual display) / C24
ZUSE KG, Bad Hersfeld, Germany, P.O.B. 340 / ZUSE Z 23, Z 25, Z 31 / DESCR: program controlled digital computers / USE: scientific, technical and commercial applications / \$42,000 to \$1,000,000 according to peripheral equipment required / C24

C24A. COMPUTERS, SPECIAL PURPOSE

AC Spark Plug Div. Aero Geo Astro Div., Keltec Industries Inc.
American Hydromath Co., 24-20 Jackson Ave., Long Island City, N.Y. 11101 / Qualitrol / DESCR: device for automatically computing results in Industrial Quality Control by attributes (good or bad). Set desired Overall Percent Defective, device takes over / USE: supervising continuous production process / \$750 to \$1200 / C24A

American Hydromath Co., *a / Stabilogage plus Trimogage / DESCR: mechanical calculating device. Automatically predetermines and indicates the stability, mean draft, deadweight, and displacement, which a ship will have under any distribution of cargo / USE: loading of ships / \$800 to \$1200 / C24A

Approved Business Machines Co., Inc. Astrodata Inc.

Autonetics Div., North American Aviation, Inc. -- see C22A
The Bendix Corp., Eclipse-Pioneer Div.

The Bunker-Ramo Corp. -- see C24
Comcor, Inc. -- see C22A
Computer Control Co., Inc.
Computer Logic Corp.
Consolidated Electrodynamics Corp. Control Equipment Corp. -- see C24
Control Logic, Inc., 3 Strathmore Rd., Natick, Mass. 01762 / digital systems / DESCR: special purpose digital data handling, measurement and control systems / - / - / C24A

Control Logic, Inc., *a / programmable digital equipment / DESCR: programmable digital circuit panels and systems for patchcord programming. Plugboard programmable digital systems / USE: education, training, systems design / \$150 per panel; \$8000 for full system / C24A

Delco Radio Div., General Motors Corp.

Dian Laboratories, Inc.
Epsco, Inc.

Evershed & Vignoles Ltd., Acton Lane Works, Chiswick, London W. 4, England / MODAN® / DESCR: analog computing circuit elements, each module using a printed-circuit board with solid-state components. For on-line calculation, integration, etc., in analog process control / USE: in conjunction with other analog process control equipment / \$84 to \$840 / C24A

Evershed & Vignoles Ltd., *a /

simple computer / DESCR: small, electro-mechanical force-balance computers with capacitance sensing. For addition, subtraction, multiplication, division, rooting, squaring, etc., in on-line analog process control applications / USE: in conjunction with other analog process control equipment / \$266 to \$336 / C24A

Fairchild Space and Defense Systems Ferranti, Ltd., Manchester, Lancashire & Bracknell, Berkshire, England / computers / DESCR: APOLLO for air traffic control systems, POSEIDON for military systems, HERMES for military and civil systems / - / £ 25,000 to £500,000 according to system / C24A

The Foxboro Co., 38 Neponset Ave., Foxboro, Mass. 02035 / process control computer systems / DESCR: digital process computer systems which connect to analog and digital instrumentation and perform data logging alarming, analysis and closed-loop control of industrial processes / - / \$100,000 to \$200,000 / C24A

General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div. -- see C10
Intectron, Inc., 2300 Washington St., Newton Lower Falls, Mass. 02162 / optical pattern analyzer -- Intectron series II model 100 / DESCR: special purpose optical computer designed to evaluate the integral of the product of two functions, in particular, Fourier transforms / USE: to compute Fourier transforms of pictorial patterns / \$14,000 to \$20,000 / C24A

Kearfott Div., General Precision, Inc. -- see C22A

Loral Electronic Systems, a division of Loral Corp.

Missouri Research Laboratories, Inc., 2109 Locust St., St. Louis, Mo. 63103 / model 123 decimal display computer / DESCR: programmable (scaleable) binary-to-decimal converter; accepts most binary codes and displays decimal equivalent; has decimal and BCD electrical outputs / - / \$7750 / C24A

Parzen Research, Inc.

Philco Corp.
The Roback Corp., Huntingdon Valley, Pa. 19006 / special purpose computers / DESCR: special purpose computers for pulse code modulation bit analysis, formatting computations / - / \$5000 to \$1.5 million / C24A

Rotron Manufacturing Co., Inc., -- see C23 and T2

Sanders Associates, Inc.

The Scan Instrument Corp.

Sperry Gyroscope Co.

Sylvania Electronic Systems
Telemetrics, Inc., 2830 Fairview St., Santa Ana, Calif. 92704 / 670 telemetry data processor / DESCR: processes any telemetry data from any source from 1 to 1,200,000 bps, outputs data in most useful (engineering units) form, uses core memory, arithmetic section / USE: completely process any telemetry data / \$160,000 to \$300,000 / C24A

Weston-Boonshaft and Fuchs, Harbor Industrial Park, Harbor, Pa. / computer analyzers / DESCR: sine, random and transient analyzers / USE: for frequency response, power spectral density and impedance measurements / \$3000 to \$100,000 / C24A

C25. COMPUTERS, TEST EQUIPMENT

Automation Dynamics Corp., 35 Industrial Parkway, Northvale, N.J. 07647 / cable analyzers / DESCR: fully automated digital readout multi-conductor test units, semi-portable, portable and fixed units / USE: continuity leakage and hi-pot testing / all price ranges / C25

Canadian Research Institute, 85 Curlew Drive, Don Mills, Ontario, Canada / computers, test equipment / DESCR: wide variety of manual and high speed automatic test equipment for the computer manufacturer / USE: laboratory testing and production control /

\$18 to \$20,000 / C25

Columbia Technical Corp., 24-30 Brooklyn-Queens Expressway West, Woodside, N.Y. 11377 / microelectronics, integrated circuits / DESCR: cermet film, hybrid circuits / - / 20¢ to \$20 / C25

Computer Control Co., Inc.

Computer Logic Corp.

Control Data Corp. -- see C24
Digital Equipment Corp., 146 Main St., Waynard, Mass. / memory test systems / DESCR: range from single core testers for laboratory evaluations to automatic production line testers, and from memory exercisers to plane testers for coincident current memories or word address memories / USE: testing magnetic memory cores, planes, and stacks / depends on system / C25

General Atronics Corp., 1200 E. Mermaid Lane, Philadelphia, Pa. 19118 / oscilloscope and cameras / DESCR: transistorized portable "Tote" scopes, 6mc to 15mc bandwidths. Plug-in high gain, dual trace vertical amplifiers. Oscillographic recording cameras / USE: test, maintenance and recording calibration / \$500 to \$1600 / C25

General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div. -- see C10
Hewlett-Packard, 1501 Page Mill Rd., Palo Alto, Calif. 94304 / test and maintenance equipment / DESCR: fast oscilloscopes, including one for viewing four related circuits at once; variable pulse generators to 100 Mc; stable power supplies; voltmeters; etc. / USE: development and maintenance of computers and related equipment / various / C25

Hoffman Electronics Corp., Semiconductor Div., Hoffman Electronic Park, El Monte, Calif. 91734 / integrated logic microcircuits / DESCR: complete digital logic function generators built in a solid block of silicon in a 10 lead TO-5 package. Operating range of -55°C to +125°C / USE: perform logic functions / \$15.60 to \$55.75 / C25

Hoffman Electronics Corp., Semiconductor Div., *a / tunnel diodes (silicon) / DESCR: available in TO-18 or DO-17 package. Peak point current range from .10ma to 100ma with tolerances of 2%, 5% and 10%. Operating range of -65°C to +150°C / USE: oscillators, amplifiers, low-level switching circuits and small signal applications / \$8.15 to \$26.55 / C25

Hoffman Electronics Corp., Semiconductor Div., *a / uni-tunnel diodes (silicon) / DESCR: available in TO-18 or DO-17 package. Reverse current range from .47ma to 10ma. Operating range of -65°C to +150°C / USE: computer logic, modulators, detectors, tunnel diode amplifiers, tunnel diode oscillators, clamping and limiting circuits / \$7.50 to \$19 / C25

Weston-Boonshaft and Fuchs -- see C24A

C26. COMPUTER COMPONENTS

Advanced Circuitry Div., Litton Industries, 4811 Kearney St., Springfield, Mo. / custom printed circuits / DESCR: produce printed circuitry for commercial, industrial and aerospace -- Multilayer & Polyweld® / - / - / C26

Aero Geo Astro Div., Keltec Industries Inc.

Aladdin Electronics

Amphenol-Borg Electronics Corp.

Audio Instrument Co., Inc.

The Bendix Corp. -- Bendix-Pacific Div.

The Bendix Corp., Eclipse-Pioneer Div.

Bowmar Instrument Corp.

The Bristol Company

Bryant Computer Products -- see M2, S9, C10 and H1

Burroughs Corp., Electronic Components Div., P.O. Box 1226, Plainfield, N.J. 07061 / single-sided glassivated semiconductor

/ DESCR: transistors, dual decoders and silicon controlled switches have single-sided contacts and are glassivated. They are 0.025" on a side and are batch manufactured / USE: on hybrid circuits and in standard microcircuit semiconductor applications / - / C26

Burroughs Corp., Electronic Components Div. -- see C50 and M2
Butler Roberts Associates, Inc.

Sub. of Oki Electronics of America, Inc. -- see C22A
Centralab, The Electronics Div. of Globe-Union Inc.

Clary Corp.

Cohu Electronics, Inc., Kin Tel Div.

Computer Control Co., Inc.

Computer Logic Corp.

Computron, Inc., Member of the

BASF Group -- see T3

Consolidated Avionics

Continental Connector Corp.

Control Data Corp., Control Systems Div.

Control Equipment Corp., 19 Kearney Rd., Needham Heights, Mass. 02194 / digital logic modules and system components / DESCR: four series: 10 Mc, 2 Mc, 500 Kc and 100 Kc, forming a complete family of mechanically and electrically compatible modules. Both NAND and Inverter logic available / - / - / C26

Control Logic, Inc. -- see C11

Control Science Corp.

Corning Glass Works, 3900 Electronic Drive, Raleigh, N.C. / computer components / DESCR: discrete glass tin oxide resistors and glass capacitors / USE: wherever discreet functions are required / depends on function and quantity / C26

Crystalonics Inc.

Delco Radio Div., General Motors Corp.

Diamonite Products Mfg. Co.

Drake Manufacturing Co.

Elco Corp., Maryland Rd. & Computer Ave., Willow Grove, Pa. 19090 / electrical connectors / DESCR: low cost connectors / USE: card-edge, P.C. plug and receptacle, rack and panel, flat-flexible cable, conventional cable, mother board, P.C. module, patchboard and special modular applications / 3¢ per contact (special purpose devices depend on complexity) / C26

Elco Corp., *a / micro-electronic packaging / DESCR: specialized packaging of micro-electronic devices / USE: reliable computer applications; interconnection media and packaging for efficiency / depends entirely on complexity / C26

Elco Corp., *a / micro-electronic packaging / DESCR: specialized packaging of micro-electronic devices / USE: reliable computer applications; interconnection media and packaging for efficiency / depends entirely on complexity / C26

Elco Corp., *a / Termiweld™ Welders / DESCR: welds flat-flexible cable without stripping insulation / USE: produce flat-cable matrices and terminate flat-flexible cable / - / C26

Electric Indicator Co., Inc., Camp Ave., Stamford, Conn. 06879 / centrifugal blowers / DESCR: quality blowers which operate quietly and efficiently where cooling electronic equipment is required / USE: flush air through cooling cabinets / \$20 to \$100 / C26

Electric Indicator Co., Inc., *a / hysteresis synchronous motors / DESCR: used for tape drives in all types of computers and precision recording equipment. Also supply multi-speed (up to 5 speeds) motors where needed / USE: magnetic tape drive and rewinding / \$30 to \$300 / C26

Electric Indicator Co., Inc., *a / torque motors / DESCR: designed for efficient cool operation, operating from a stall condition to a near no load speed / USE: in computers for magnetic tape tension and rewind / \$25 to \$100 / C26

Electronic Engineering Co. of California

Electronic Memories, Inc. -- see C51, M2, and C24

Engineered Electronics Co.

Epsco, Inc.

ESS GEE, Inc.

Fairchild Controls, Div. of Fairchild Camera and Instrument Corp.
General Atronics Corp., Electronic

Tube Div., 1200 East Mermaid Lane, Philadelphia, Pa. 19118 / cathode ray tubes display / DESCR: single & multi-gun display tubes / USE: oscilloscope, radar, special displays / \$20 to \$2000 / C26

General Electric Co., Capacitor Dept., P. O. Box 158, Irmo, S.C. 29063 / electrolytic capacitors / DESCR: capacitors used to block, filter, couple and decouple DC current are of the electrolyte type; high volumetric efficiency - high Vuf/cu. inch / USE: control, timing, power supplies, filtering of DC current / \$25 to \$100+ / C26

General Electric Co., Electronic Components Sales Operation

General Instrument Corp., Defense and Engineering Products Corp., Radio Reception Div. -- see C10

Houston Fearless Corp.

IMC Magnetics Corp., Western Div. Industrial Electronic Engineers, Inc.

Industrial Nucleonics Corp.

International Electro-Magnetics, Inc.

International Electronic Research Corp., 135 West Magnolia Blvd., Burbank, Calif. / transistor heat dissipators / DESCR: devices to which transistors are mounted for heat dissipation / USE: heat dissipation / 10¢ to \$2 / C26

International Rectifier Corp.

International Resistance Co.

ITI Electronics, Inc., 369 Lexington Ave., Clifton, N. J. / custom manufacturing / DESCR: cable assemblies, wiring harnesses, oscilloscopes, video monitors, video amplifiers, power supplies, test consoles, custom manufacturing / - / individual quotation / C26

ITI Electronics, Inc., *a / high level video amplifier, Type IT-284 / DESCR: all solid state. -40°C to +60°C. Bandwidth -3 DB at 20 MC. Output 50V min. P-P 60 cps. square wave, tilt 3% max. / - / \$600 net each including enclosure and power supply / C26

ITI Electronics, Inc., *a / large screen cathode-ray indicator, Type IT-277 / DESCR: provides high resolution, bright display for response curve tracing and matching to fractional DB tolerance. Deflection sensitivity 1 MV/inch both axes. All supply voltages regulated / - / \$3400 net each / C26

ITI Electronics, Inc., *a / remote cathode-ray indicator, IT-271 / DESCR: remote 5" CRT display connected to circuit chassis by cable. Identical amplifiers provide DC-100 KC response. Sensitivity one volt per inch / - / \$425 net each / C26

JB Electronic Transformers, Inc.

Lear Siegler, Inc., Power Equipment Div.

Lockheed Electronic Co., Avionics and Industrial Products Div., 6201 E. Randolph St., Los Angeles, Calif. 90022 / printed circuits / DESCR: printed circuits, flexible, printed circuits multi-layer, printed circuit assemblies, chemically milled parts / USE: computer components / varies / C26

Melcor Electronics Corp.

M-H Standard Corp.

Micro-Letric, Inc., 19 Debevoise Ave., Roosevelt, L.I., N.Y. 11575 / precision wire-wound potentiometer / DESCR: linear and non-linear, single turn / - / \$10 up / C26

Motorola Semiconductor Products Inc., 5005 E. McDowell Rd., Phoenix, Ariz. / semiconductor devices / DESCR: germanium and silicon transistors, silicon rectifiers and diodes, silicon controlled rectifiers, rectifier assemblies, integrated circuits / USE: electronic circuits / 44¢ to \$75 / C26

Motorola Semiconductor Products Inc., *a / transistors / DESCR: silicon and germanium power transistors, germanium milliwatt transistors, silicon and germanium high frequency transistors and multiple devices / USE: electronic circuits / 44¢ to \$75 / C26

Norden Div. of United Aircraft Corp.

Nortronics, A Div. of Northrup Corp.

Paktron Div., Illinois Tool Works, Inc., 1321 Leslie St., Alexandria, Va. / plastic film capacitors / DESCR: complete line of polyester (mylar) and polycarbonate thin film and foil capacitors for industrial instrument, computer, military, and entertainment markets. Epoxy coated and molded cases, miniature size / - / 5¢ to \$1.75 / C26

Pastoriza Electronics, Inc.

L. A. Pearl Co.

Photon, Inc.

Raytheon Co., Semiconductor Div.

Sage Electronics Corp.

Sanders Associates, Inc.

Schaevitz-Bytrex Corp.

Societe d'Electronique et d'Automatisme

Sperry Farragut Co. Systems Sales Co.

Tech Serv Inc.

Texas Instruments, Inc.

Trak Electronics Co., Inc., 59 Danbury Rd., Wilton, Conn. 06897 / Digistore read/write unit / DESCR: asynchronous, incremental, digital, magnetic tape recorder-reader; 8-channel, max. 300 character/sec. / USE: input/output, data recorder, message storage / \$2500 to \$3300 / C26

Usecop Div., Litton Industries, 13536 Saticoy St., Van Nuys, Calif. / manufacturer of electronic products / DESCR: electronic hardware, terminals, terminal boards, headers, encapsulation cups, molded products, screw machine products / - / - / C26

Veeder-Root, Inc.

Waber Electronics, Inc. -- see C31

Weston Instruments, Inc.

Wheeldex, Inc.

Winchester Electronics Div., Litton Industries, Main St. & Hillside Ave., Oakville, Conn. / manufacturer of precision electronic connectors / DESCR: produce connectors vital to military, aerospace and commercial industries. Miniature, subminiature connectors round and rectangular printed circuit connectors, quick disconnect heavy duty connectors, terminals - racks and panel / - / - / C26

C27. COMPUTING SERVICES (see also "Survey of Computing Services")

American Data Services, Inc.

Booz, Allen Applied Research Inc. C-E-I-R, Inc., One Farragut Square, S., Washington, D. C. 20006 / data processing service bureaus; economic and scientific research / DESCR: computing, programming and consulting services; operations research; education in management sciences / - / normally under contract / C27

Coburn Credit Co., Inc.

Control Data Corp. -- see C24

The Data Corp., 4050 Wilshire Blvd., Los Angeles, Calif. 90005 / data consulting and processing services / DESCR: consultants, methods analysts, systems analysts, programmers for major computer manufacturers. In house IBM 1460/360, SDS 910, Philco and REI Optical scanners. Representation in principal cities / USE: data problem solving. Consulting, systems, programming and processing / - / C27

Dian Laboratories, Inc.

EDP Management, Inc. -- see C22, P12A

Electronic Associates Inc.

General Electric Co., Computer Dept.

Itek Corp., 10 Maguire Rd., Lexington, Mass. 02173 / Itek information processing center / DESCR: uses Itek MCP-1000 system to perform stenopunching, steno transcription, automatic translation from Chinese to English and Russian to English, steno keyboarding for automatic typesetting, archival storage, and information storage and retrieval / USE: to give high-speed response to customers' needs for file conversion and data translation / dependent upon services rendered /

C27

Mathematischer Beratungs- und Programmierungsdienst GmbH

Statistical Tabulating Corp.

United Data Processing, 1001 S. W. 10th, Portland, Ore. / service bureaus / DESCR: 2 tape 1401's, teleprocessing, punched tape, key punch, etc. / USE: general business computing / - / C27

Wolf Research & Development Corp., Baker Ave., P. O. Box 36, West Concord, Mass. 01781 / computing services / DESCR: digital computer operations, business and scientific programming, engineering analysis. Applications in data reduction, data storage and retrieval, computer displays and computer communications / - / - / C27

C28. COMPUTING SERVICE, DIGITAL (see also "Survey of Computing Services")

Abacus Information Management Co. -- see S9

American Data Services, Inc.

Data Dynamics, Inc. -- see C30

Data Products Corp., 8535 Warner Dr., Culver City, Calif. 90231 / systems analysis and programming services / DESCR: Informatics Inc., a wholly-owned subsidiary, specializes in user-oriented services on any system or application involving utilization and programming of electronic digital computer systems / - / - / C28

EDP Management, Inc. -- see C22, P12A

Itek Corp. -- see C27

Mellonics Systems Development Div. of Litton Systems, Inc. -- see P12A

National Physical Laboratory, Mathematics Div., Teddington, Middlesex, England / digital computing service / DESCR: specialists in numerical analysis including problems in applied mathematics and theoretical physics; data processing / - / - / C28

Transistor Electronics Corp. URS Corp., 1811 Trousdale Dr., Burlingame, Calif. 94011 / digital computing services / DESCR: payroll, insurance accounting, financial accounting, warehouse accounting, general accounting, statistical analysis, photogrammetric computation, target data processing, intelligence data processing, feed blending / - / - / C28

Wolf Research & Development Corp. -- see C27

C30. CONSULTING SERVICES (see also "Survey of Consulting Services")

Abacus Information Management Co. -- see S9

ABL Inc.

The William C. Allen Corp., 1875 Connecticut Ave., N. W., Washington, D. C. 20009 / management consultants / DESCR: provide technical and management services for users and manufacturers of information handling equipment / USE: management decision making / \$100 to \$300 per day / C30

American Data Services, Inc.

Arkey Engineering, Inc.

Auerbach Corp., 1634 Arch St., Philadelphia, Pa. 19103 / systems-design and consulting services / DESCR: consulting services in system engineering, computer programming, business information systems, product and market planning, programmed teaching, computer analysis (Auerbach Standard EDP Reports) / - / - / C30

Automation Sciences, Inc., 275 Madison Ave., New York, N. Y. 10016 / consulting and programming services / DESCR: systems, analysis, computer programming, engineering and feasibility studies / USE: for computer, simulation, data reduction, command control and special data processing systems / - / C30

E. J. Bettinger Co., 20 S. 15 St., 7th Floor, Philadelphia, Pa. / personnel consulting / DESCR: conduct recruiting and executive search projects for programmers, systems analyst, engineers, operations research, etc. / USE:

computer manufacturers, users, consultants and R & D firms / - / C30

Booz, Allen Applied Research Inc. Booz, Allen & Hamilton, Inc.

Brandon Applied Systems, Inc., 30 E. 42nd St., New York, N. Y. 10017 / consulting and programming services / DESCR: technical consulting services in data processing functions from feasibility analysis to computer installation; including programming, and extensive training courses sponsored by Computers and Automation Magazine / - / n/a / C30

Canadian Research Institute, 85 Curlew Dr., Don Mills, Ontario, Canada / research and development / DESCR: Canada's largest instrument development lab; designs and/or custom-builds special purpose analog computers, analog-digital converters, card readers and sorters, function changers, etc. / - / - / C30

CBS Laboratories, a Div. of Columbia Broadcasting Systems, Inc.

C-E-I-R, Inc. -- see C27

Chrono-Log Corp.

Computer Associates, Inc.

Control Logic, Inc. -- see C24A

The Data Corp. -- see C27

Data Dynamics, Inc., 305 Webster St., Monterey, Calif. 93940 / consulting, programming and systems analysis / DESCR: engineering studies, computer programming, systems and mathematical analysis in operations analysis, command and control, orbital mechanics, information, compilers / - / open / C30

Data Products Corp. -- see C28

Ebasco Services Incorporated

EDP Management, Inc. -- see P12A

EDP Management, Inc., P. O. Box 393, New York, N. Y. 10008 / computer programming and software systems / DESCR: service in area of computer effectiveness applied to operational problems / - / \$15 and \$45 per net hr. / C30

English Electric-Leo-Marconi -- see C22A

Floating Floors, Inc., (subsidiary of National Lead Co.), 22 E. 42nd St., New York, N. Y. 10017 / consulting service / DESCR: to design and construct complete data processing areas / USE: for design and construction of computer rooms / - / C30

Dr. Ivan Flores, 931 President St., Brooklyn 15, N. Y. / consulting services / DESCR: logical design with models, system design math analysis, software system design, preliminary programming feasibility, proposals, seminars / - / - / C30

H. J. Gryg & Associates, Inc., 2501 Cedar Springs Rd., Dallas, Texas 75201 / consulting on computer application to petroleum industry / DESCR: large staff of engineers and geologists with experience in solving petroleum and natural gas reservoir problems and production problems via digital computers / - / - / C30

Haddonfield Research & Manufacturing Co., 121 Gill Rd., Haddonfield, N. J. 08033 / production consulting service / DESCR: consultation in production of ferro-magnetic products used in computer memory and logic areas. Consultation can be provided to increase production economies, quality, uniformity, reliability, and sales in these product areas / USE: by companies working in this general area / retainer fee \$50 / C30

Halbrecht Associates Inc.

Philip Hinkins & Co., Inc.

Hollander Associates

INFORMATICS, INC., 15300 Ventura Blvd., Suite 500, Sherman Oaks, Calif. 91403 / COMPUTER PROGRAMMING / DESCR: computer program design, coding, check-out and documentation for real-time systems, utility software, business data processing, scientific applications, file management systems, critical path method / - / provided on a firm fixed-price basis or other contracts / C30

Products and Services

INFORMATICS, INC., *a / SYSTEM ANALYSIS / DESCR: analysis and design of information systems for military, scientific and business applications / - / provided on a firm, fixed-price or other type of contract / C30

INFORMATICS, INC., *a / TECHNICAL COMMUNICATIONS / DESCR: printed items involving technical tasks tailored to various audiences by means of publications and audiovisual materials such as slides, film strips, motion pictures and presentation materials / - / provided on a firm, fixed-price or other type of contract / C30

Information Dynamics Corp. — see I2A

Infotran, Inc., 860 Fifth Ave., New York, N. Y. 10021 / consulting services / DESCR: consultants on special purpose computers, communications and control systems / - / C30

International Data Corp., 355 Walnut St., Newtonville, Mass. 02160 / consulting / DESCR: market research services in computer and data processing field / - / C30

Jonker Business Machines, Inc. Liskej Aluminum, Inc., Box 580, Glen Burnie, Md. 21061 / DATA-AIRE / DESCR: modular environmental control units for proper temperature and humidity control of computer space; movable to allow exact requirements to be met and provide adequate backup. Available in 3 and 5 ton units, water or air cooled / USE: air conditioning and humidity control of EDP installations and units / - / C30

F. L. Mannix & Co., Inc., Suite 1132, Park Square Bldg., Boston, Mass. / personnel placement and management consultants / DESCR: executive and technical placement in the field of data processing; consultants in wage and salary programs; organization and personnel administration / - / C30

National Computer Analysts, Inc. Simon M. Newman Planning Research Corp. 1100 Glendon Ave., Los Angeles, Calif. 90024 / consulting services / DESCR: full range of information processing services: software system analysis, design, implementation; systems engineering; related economic research / USE: assists management in government, industry / - / C30

Programming & Systems, Inc. Statistical Tabulating Corp. Systemat. 1107 Spring St., Silver Spring, Md. / professional placement / DESCR: qualified registered computer programmers, systems analysis and related personnel are referred to potential employers having a current need for experienced employees / - / no charge to applicants / C30

Tape Certifiers, Inc., 1604 W. 139th St., Gardena, Calif. 90249 / magnetic tape certification and re-certification / DESCR: service agency for magnetic tape (telemetry and computer) cleaning, certification, re-certification and rehabilitation of all magnetic tapes. 7 and 9 channel and full width testing available / USE: service to the data processing industry / \$7.50 to \$11.50 ea. / C30

URS Corp. — see O2 Warren Associates, 433 Putnam Ave., Cambridge, Mass. / consulting services / DESCR: complete consulting services for digital computer users including system analysis, problem solving, and programming. Ten years' experience in information retrieval / - / C30

Wolf Research & Development Corp., Baker Ave., P. O. Box 36, West Concord, Mass. 01781 / consulting services / DESCR: specialists available for consulting in: applied mathematics including applied mechanics and geodesy, electronic and logical circuit design,

scientific management techniques, computer systems and applications / - / C30

C31. CONTROLS

Airpax Electronics, Inc. API Instruments Co. Applied Control Co. Automation Dynamics Corp. — see R12A and P1 Computer Associates, Inc. Control Equipment Corp., 19 Kearney Rd., Needham Heights, Mass. 02194 / digital control systems / DESCR: industrial control systems / USE: batch processing, in-line blending, data logging, programming, alarm monitoring, counting and sorting, remote control, timing and sequencing, test and inspection / - / C31

Control Logic, Inc. — see C24A Controlomag Laboratories EDP Corp. E-Z Sort Systems, Ltd. Fischer & Porter Co. General Electric Co., Electronic Components Sales Operation General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div. — see C10 Giannini Controls Corp., 1600 S. Mountain Ave., Duarte, Calif. 91010 / controls / DESCR: nucleonic controls for gaging propellants under zero-gravity; measuring thicknesses; gaging oil in in-flight aircraft — conventional controls for aircraft / USE: aerospace and aviation / various / C31

The GYREX Corp. ITT General Controls Ledex, Inc., 123 Webster St., Dayton, Ohio 45402 / solenoids, rotary and linear / DESCR: electro-mechanical devices; linear or direct rotary outputs / USE: to actuate, step, turn, pull, trigger, advance / \$3.50 to \$15 / C31

Ledex, Inc. — see S6 Philips Electronic Instruments The Scan Instrument Corp. Transistor Electronics Corp. Union Switch & Signal Div. of Westinghouse Air Brake Co. Veeder-Root, Inc. Waber Electronics, Inc., 2000 N. Second St., Philadelphia, Pa. 19122 / multiple outlet box / DESCR: provides a means for power distribution in installation and use of electronic equipment and for the laboratory / - / \$5 to \$50 / C31 Westgate Laboratory, Inc. G. C. Wilson & Co.

C32. CONTROLS, AUTOMATIC

AmTron Inc. API Instruments Co. Automation Dynamics Corp. — see P1 and R12A Brooks Instrument Div., Emerson Electric Co. Bulova Watch Co., Inc., Systems and Instruments Div. Carlton Controls Corp., 15 Sagamore Rd., Worcester, Mass. 01605 / numerical control / DESCR: decimal digital positioning control for machine tools and allied equipment utilizing solid state logic and optical encoders / - / C32

Cincinnati Time Recorder Co. Consolidated Electrodynamics Corp. Control Equipment Corp. — see C31 Control Logic, Inc. — see C24A Delco Radio Div., General Motors Corp. Dialight Corp. Durant Mfg. Co., 600 N. Cass St., Milwaukee, Wisc. 53201 / Durant unisystem / DESCR: an electro-mechanical (40 counts per second) sequential counting control with readout for electrical and electronic recording, controlling, programming / USE: single and multiple level predetermining, data storage, time indication / \$250 to \$450 / C32

Electronic Engineering Co. of California The Foxboro Co., 38 Neponset Ave., Foxboro, Mass. 02035 / industrial process control / DESCR: instruments which measure and control such process variables as pressure, temperature, flow.

Analytical instruments such as pH, chromatography, ORP / - / C32

General Atronics Corp., 1200 E. Mermaid Lane, Philadelphia, Pa. 19118 / material handling controls / DESCR: automatic code reading and routing systems / USE: inventory control, warehouse sorting by product / \$1500 to \$2500 / C32 Industrial Nucleonics Corp. Ledex, Inc. — see C31, S6 Nash and Harrison Ltd., 1355 Wellington St., Ottawa 3, Ontario, Canada / ElDeMa / DESCR: electronic detection machine for flaws in paper with associated process control computers for sorting and marking defective sections / USE: associated with cutting-sorting machines, paper machines, winders, calendars, in paper mills / \$20,000 to \$100,000 / C32

Natel Engineering Co., Inc. Systems Engineering Laboratories, Inc., P. O. Box 9148, Fort Lauderdale, Fla. 33310 / SEL model 900 direct digital control system / DESCR: closed loop direct digital control system designed to meet production automation requirements / - / C32

M. Ten Bosch, Inc. 3 M Co., Instrument Dept., 12909 S. Cerise, Hawthorne, Calif. / industrial data and control systems / DESCR: data acquisition systems, direct digital process control, computer controlled industrial electronic systems, counters and digital displays, digital transducers / USE: automatic controls / - / C32 Waber Electronics, Inc. — see C31 Weston-Boonshaft and Fuchs — see S2A

C33. CONTROLS, SIGNALLING

Automation Dynamics Corp. — see P1 and R12A Canadian Aviation Electronics, Ltd., P. O. Box 6166, Montreal 3, Quebec, Canada / type TP-2 Auto Call / DESCR: solid state automatic polling device which generates up to 16 invitations to send character groups and transmits them sequentially to stations on a loop / USE: sequential control of transmitting station on a loop / \$1000 to \$1200 / C33 Canadian Aviation Electronics, Ltd. *a / TS Series Selector / DESCR: solid-state device for on line control of telegraph and data handling equipment / USE: selective control on party line system / \$350 to \$450 for standard unit / C33 Cincinnati Time Recorder Co. Control Equipment Corp. — see C31 Control Logic, Inc. — see C24A Ledex Inc. Natel Engineering Co., Inc. Quindar Electronics Inc. — see T10 Waber Electronics Inc. — see C31

C34. CONTROLS, SORTING AND COUNTING

Control Equipment Corp. — see C31 Control Logic, Inc. — see C24A Controlomag Laboratories Davidson Electronic Development Co., 2211 Peninsula Dr., Erie, Pa. 16505 / component parameter controllers/testers / DESCR: over 4,000/hour automation for R/C/dt/TR/TC/EPBO/ERBD/etc. Also high speed (40,000/hour) for R / USE: manufacturing and testing / \$2000 to \$50,000 / C34 E-Z Sort Systems, Ltd. General Atronics Corp. — see C32 Ledex Inc. — see S6 Nash and Harrison Ltd. — see C32

C39. CONVERTERS, INFORMATION

Aero Geo Astro Div., Keltec Industries Inc. Control Logic, Inc. — see C24A Delco Radio Div., General Motors Corp. Giannini Scientific Corp., Richmond Div., P. O. Box 1-F, Richmond, Va. 23201 / Mem-O-Tizer — shaft encoder / DESCR: capable of delivering decimal, binary coded decimal, straight binary or

other coded outputs including a memory and high power switching to allow direct coupling into printers and other electrical displays / USE: scale and bulk loading industry using directly off-scale heads for electrical readout / \$550 to \$700 / C39 IMC Magnetics Corp., Western Div. Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N. J. 07424 / ADAC® / DESCR: direct drive analog to digital code converters (shaft encoders) / USE: converting binary, cyclic binary, binary decimal computer data / - / C39 Mohawk Data Sciences Corp. Quindar Electronics Inc. — see S1 Nixon Electronics, Inc., 2121 Industrial Pkwy., Silver Spring, Md. 20904 / time division multiplexer / - / USE: to multiplex many channels of start-stop teletype information into a synchronous data stream for economical, efficient transmission through communications and encryption facilities. System can be custom tailored to intermix data from variety of sources and at many different rates / - / C39 Towson Laboratories, Inc.

C40. CONVERTERS, INFORMATION, ANALOG TO DIGITAL

Arcom Corp. Astrodata Inc. Avtron Manufacturing, Inc. The Bendix Corp., Eclipse-Pioneer Div. Burlingame Associates, Ltd. Canadian Aviation Electronics, Ltd., P. O. Box 6166, Montreal 3, Quebec, Canada / AD10A converter / DESCR: analog-to-digital converter which produces coded digital output, in either binary or binary coded decimal form from positive dc voltage input / - / \$1400 to \$1800 / C40 Canadian Research Institute, 85 Curlew Drive, Don Mills, Ontario, Canada / analog to digital converter / DESCR: low priced converter with 1% resolution especially suited for telemetering. Can be used for linear to log, log to linear and other function conversions / USE: as an ADC or function converter / \$200 to \$800 / C40 CG Electronics Div., Gulton Industries, Inc. Clifton Precision Products, Div. of Litton Industries — see S8 Electro Instruments, Inc. Electronic Engineering Co. of California Epsco, Inc. ESS GEE, Inc. General Devices, Inc., P. O. Box 253, Princeton, N.J. 08540 / A/D & D/A converters / DESCR: analog to digital and digital to analog converters. Solid state instruments made primarily for telemetry systems. Available for use in computers also / USE: combined with power supply, keyer, amplifier to multiplexer make up telemetry system / \$1500 to \$6500 / C40 Giannini Scientific Corp., Richmond Div. — see C39 Kearfott Div., General Precision, Inc. — see C39 Mardix, 1160 Terra Bella Ave., Mountain View, Calif. / video data systems / DESCR: special purpose data instrumentation systems to interface video signal sources and digital data analyzers, signal processor and computers. Instrumentation quality video systems. Computer and digital data driven visual displays / USE: digital instrumentation and computer processing of visual information / \$10,000 to \$150,000 / C40 Microspace, Inc., 170 S. Van Brunt St., Englewood, N.J. 07631 / manufacturer of digital encoders, residue encoders, information discs, scanning discs / DESCR: manufacture analog to digital conversion equipment, readout displays, electro-optical sensor devices, positioning equipment, collimated and monochromatic light sources; all units available in either modular forms or

Products and Services

complete systems / USE: for analog to digital conversion except for scanners used in facsimile transmission / \$300 each up / C40
Non-Linear Systems, Inc.

Raytheon Computer, 2700 S. Fairview St., Santa Ana, Calif. 92704 / data systems equipment / DESCR: high-speed 0.01% accurate A/D converters, D/A converters, integrated circuit multiplexers, circuit modules and module breadboard kits. Multiverter - 96-channels of integrated circuit multiplexing and A/D converter, and a sample and hold unit in single 5K" high drawer / USE: data acquisitions and processing systems / - / C40

Redcor Corp.
The Roback Corp., Huntingdon Valley, Pa. 19006 / digital volt-ohm meters / DESCR: A/D and D/A converters, digital volt-ohm meters / USE: test equipment, systems, etc. / \$595, \$695, \$795 / C40

Scientific Data Systems, Inc., 1649 17th St., Santa Monica, Calif. / A/D converters / DESCR: high speed; all solid state; extensive use of monolithic integrated circuits. Complete conversion times as low as 5 microseconds. D/A converters and multiplexers also available / - / \$300 to \$5000 / C40
Sperry Gyroscope Co.
Systems Engineering Laboratories, Inc., P. O. Box 9148, Fort Lauderdale, Fla. 33310 / analog to digital converters / DESCR: high speed solid state converters with resolutions from 11 bits binary to 17 bits BCD at 600 kc to 2 megacycle bit rate with display / - / - / C40
Texas Instruments Inc.
Theta Instrument Corp.
Townson Laboratories, Inc.
Veeder-Root Inc.

C41. CONVERTERS, INFORMATION, CARD TO MAGNETIC TAPE

Data Systems Inc., 10700 Puritan Ave., Detroit, Mich. 48238 / DSI-1000F data conversion system / DESCR: reads punched cards, column by column, at 100cmp; asynchronous operation and program control. Magnetic tape unit reads and writes data at 4000cps / USE: converts Holtrith code to IBM compatible magnetic tape / \$41,480 / C41

C42. CONVERTERS, INFORMATION, CARD TO PAPER TAPE

The Acrotad Co. — see T3A
Data Systems Inc., 10700 Puritan Ave., Detroit, Mich. 48238 / DSI-1000B data conversion system / DESCR: reads punched cards, column by column, at 100 cps; asynchronous operation and program control. Paper tape punch operates at 110 cps, 508 channel format on 1" tape / USE: converts Holtrith code to ASCII, Teletype 5-level, etc. / \$34,880 / C42

Dura Business Machines, Div. of Dura Corp., 32200 Stephenson Highway, Madison Heights, Mich. 48071 / Dura converter / DESCR: tape-to-card, card-to-tape, tape-to-tape / USE: convert 5, 6, 7, 8 channel code to card and vice versa / \$3250 to \$7000 / C42
International Computers and Tabulators Ltd.

C42A. CONVERTERS, INFORMATION, CODE

Burroughs Corp., Electronic Components Div., P. O. Box 1226, Plainfield, N.J. 07061 / BIFCO® readout drivers/decoders / DESCR: solid state packages, with or without memory, to drive NIXIE® tubes. Inputs can be decimal or BCD / USE: to drive NIXIE® tubes / - / C42A

Codamite Corp., P. O. Box 2518, Anaheim, Calif. 92804 / subminiature code translators / DESCR: code translators to convert between and among such codes as

Baudot, Morse, ASCII, Fieldata, etc. All units subminiature 2x10x15" approximately / USE: code language conversion / \$1500 to \$15,000 / C42A

Data Systems Inc., 10700 Puritan Ave., Detroit, Mich. 48238 / DSI-1000R code conversion system / DESCR: code conversion possible between IBM, ASCII, Friden, Teletype 5-level, etc., format conversion; data conversion; media conversion; error correction and validity checking / USE: convert between any form of existing codes / \$26,680 to \$68,680 / C42A
Sigma Instruments, Inc.
Trak Electronics Co., Inc., 59 Danbury Rd., Wilton, Conn. 06897 / CMP-18 (AN/UGA-3) / DESCR: translates Morse Code from receiver at up to 500 WPM to serial teletype-writer signals / USE: message handling, remote data recording / \$20,000 to \$40,000 / C42A

C44. CONVERTERS, INFORMATION, DIGITAL TO ANALOG

Adcom Corp.
CG Electronics Div., Gulton Industries, Inc.
Clifton Precision Products, Div. of Litton Industries — see S8
Decision Control, Inc. — see C11
General Radio Co., 22 Baker Ave., W. Concord, Mass. 01781 / digital to analog converter / DESCR: digital output from counter translated into dc for analog recording. Storage circuits permit intermittent, continuous BCD inputs. Converter selects any 3 consecutive columns / - / \$680 to \$970 / C44
Information Displays, Inc., 102 E. Sandford Blvd., Mount Vernon, N.Y. 10550 / digital to analog converter / DESCR: solid-state unit, converts 10-bit parallel. To 500,000 conversions per second. Single plug-in card / USE: in computer controlled CRT displays / \$325 / C44
Kearfott Div., General Precision, Inc. — see C39
Non-Linear Systems, Inc.
Redcor Corp.
Sigma Instruments, Inc.
Sperry Gyroscope Co.
Systems Engineering Laboratories, Inc., P. O. Box 9148, Fort Lauderdale, Fla. 33310 / digital to analog converters / DESCR: available with various resolutions, outputs and speeds / - / - / C44

C44A. CONVERTERS, INFORMATION, DIGITAL TO GRAPHIC

Babcock Electronics Corp., 1640 Monrovia Ave., Costa Mesa, Calif. / BIDOPS / DESCR: electronic scoring system / USE: miss-distance, indicator system / classified / C44A
Benson-Lehner Corp.
Burroughs Ann Arbor Lab. — see V1
Hewlett-Packard

C44B. CONVERTERS, INFORMATION, GRAPHIC TO DIGITAL

Benson-Lehner Corp.

C46A. CONVERTERS, INFORMATION, MAGNETIC TAPE TO MAGNETIC TAPE

Geo Space Corp., 5803 Glenmont Drive, Houston, Tex. 77036 / ADA-100 / DESCR: analog to digital magnetic tape conversion unit that accepts standard analog geophysical magnetic tapes and prepares a digital tape for computer entry / USE: preparing geophysical data for computer entry / \$60,000 to \$100,000 / C46A

C47. CONVERTERS, INFORMATION, PAPER TAPE TO CARD

Duro Business Machines, Div. of Duro Corp. — see C42
International Computers and Tabulators Ltd.

C48. CONVERTERS, INFORMATION, PAPER TAPE TO MAGNETIC TAPE

The Acrotad Co. — see T3A

C50. CORES

Burroughs Corp., Electronic Components Div., P. O. Box 1226, Plainfield, N.J. 07061 / ferrite cores, planes and stacks / DESCR: 20, 30, 50 and 80 mil ferrite cores, planes and stacks made to specifications / USE: computer memories / - / C50
Electronic Memories, Inc. — see C51 and M2
Haddonfield Research & Manufacturing Co., 121 Gill Rd., Haddonfield, N.J. 08033 / magnetic ferrite cores / DESCR: 80, 50, and 30 mil ferrite cores for use in memory planes and logic applications. Cores produced under controlled conditions to produce optimum cores for the system application. Available in various configurations to custom suit the need / USE: strung onto wired memory frames called planes / \$5/M to \$75/M / C50
Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N.J. 07424 / magnetic recording head cores and memory drum ferrites / DESCR: high permeability, machinable, low loss, homogeneous, high saturation magnetization, hard, high strength, high density, sintered ferrites / USE: recording, reproducing, erasing in computers / - / C50

C51. CORES, FERRITE

Burroughs Corp., Electronic Components Div. — see C50
Electronic Memories, Inc., 12621 Chadron Ave., Hawthorne, Calif. 90250 / ferrite memory cores; transfluxors; switch cores / DESCR: coincident current, word select, lithium, Isodrive® cores for core memories / USE: core memories / on request / C51
Electronic Memories, Inc. — see M2
Ferroxcube Corp. of America
Haddonfield Research & Manufacturing Co. — see C50
Kearfott Div., General Precision, Inc. — see C50
Lockheed Electronics Co., Avionics and Industrial Products Div., 6201 E. Randolph St., Los Angeles, Calif. 90022 / computer memory products / DESCR: commercial and military memory stack assemblies and complete high speed memory systems (including ground and airborne applications). Ferrite memory products, including basic memory cores in standard and wide temperature materials, multiaperture devices / USE: computer and memory components / varies / C51

C52. CORES, MAGNETIC

Aladdin Electronics
The Arnold Engineering Co., P. O. Box G, Marengo, Ill. 60152 / magnetic materials / DESCR: deltamax, permalloy, supermalloy, iron powder cores, silectron cores, tape wound cores, bobbin cores, molybdenum powder cores, transformer and motor laminations, magnetic shielding / USE: in circuitry / - / C52
Burroughs Corp., Electronic Components Div. — see M2
DI/AN Controls, Inc.
Fabri-Tek Inc.
Haddonfield Research & Manufacturing Co. — see C50
Lockheed Electronics Co., Avionics and Industrial Products Div. — see C51
Torotel, Inc. — see A3

C53. COUNTERS

Burroughs Corp., Electronic Components Div., P. O. Box 1226, Plainfield, N.J. 07061 / counter (uni- and bi-directional) / DESCR: solid state uni- and bi-directional counters with inte-

gral NIXIE® tube. Support modules (preamplifier, preset/reset and polarity detector) with counter provide a decimal accumulator that counts algebraically / USE: programmable machine tool controls, measuring devices (testing, gauging) flow measurement and control, linear measurement monitoring, totalizing and X-Y plotting / \$70 and up / C53
Components Corp.
Control Logic, Inc. — see C24A
Controlmag Laboratories
Engineered Electronics Co.
Giannini Controls Corp., 1600 S. Mountain Ave., Duarte, Calif. 91010 / electromechanical counters / DESCR: counts the number of impulses or events; provides visual readout in 6 digits. Manual or electrical re-set models / USE: in many types of automatic control systems / \$20 to \$28 / C53

Hewlett-Packard — see C54
ITT General Controls
Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N.J. 07424 / navigational counters / DESCR: mechanical counters for all types of readout. Center-scale decimal or angle, odometer and Geneva drives. High precision, continuous-reading, compact, lightweight, high-speed, strong, corrosion resistant / USE: latitude, longitude, plus, minus readout on airborne navigation equipment / C53

C54. COUNTERS, ELECTRONIC

Bowmar Instrument Corp.
Burroughs Corp., Electronic Components Div. — see C53
Chrono-Log Corp.
Control Logic, Inc. — see C11 and C24A
General Radio Co., 22 Baker Ave., W. Concord, Mass. 01781 / digital time and frequency meters / DESCR: number of cycles of input frequency counted during precise time interval. Period measurements can also be made / USE: measure frequency, period, and frequency rates / \$995 to \$3145 / C54
Hewlett-Packard, 1501 Page Mill Rd., Palo Alto, Calif. 94304 / counters / DESCR: twenty-one different solid-state and tube-type counters for measuring frequency up to 15 gc; also period, rate, time interval, ratio, etc. / USE: computers and related equipment / \$325 to \$3525 / C54
Janus Control Corp., 50 Hunt St., Newton, Mass. 02158 / electronic decade counters & displays / DESCR: all silicon, transistorized, 2 MC & 50 MC modular decade counters with and without numerical displays. Manufacture over 30 modular counters and counter related products / USE: in computers, control systems and timing systems / \$27.50 to \$145 / C54
Logitek, Inc. — see T11.3
Veeder-Root, Inc.

C55. COUNTERS, FREQUENCY

Hewlett-Packard — see C54
Janus Control Corp. — see C54

C56. COUNTERS, MECHANICAL

Durant Mfg. Co., 600 N. Cass St., Milwaukee, Wisc. 53201 / counters and indicators / DESCR: digital readout mechanical and electro-mechanical counters and indicators. High speed decade counters with readout / USE: numerical indication or readout / \$8 to \$35 / C56
Kearfott Div., General Precision, Inc. — see C53
Veeder-Root, Inc.

C58. COURSES BY MAIL (COMPUTER FIELD)

EDP Management, Inc. — see C22
The Warren Institute (Div. of Warren Associates), 433 Putnam Ave., Cambridge, Mass. / "Computing Bit by Bit" / DESCR: complete

Products and Services

- course of instruction for the novice programmer. Course includes correction of problems and exercises (by return mail) by Warren Institute, together with individualized assistance when needed / USE: by mail / - / C50
- DO.5. DATA PROCESSING ACCESSORY EQUIPMENT**
- The General Fireproofing Co.
- D1. DATA PROCESSING MACHINERY**
- Approved Business Machines Co., Inc. Bell Telephone Mfg. Co., Automation Systems Div., Berkenrodelei 33, Hoboken, Belgium / jacketing system / DESCR: combined document and information handling system based on a mylar document and information carrier jacket / USE: banks and postal cheque service / - / D1
- Bell Telephone Mfg. Co., Automation Systems Div., *a / mail handling automation / DESCR: automatic and semi-automatic letter sorters, indexing desks and code translators / USE: postal and private administrations / - / D1
- Bryant Computer Products — see M2
- Computer International Trade Corp., Box 66847 (2708 Bagby), Houston, Tex. 77006 / used computer sales / DESCR: broker used computers for owner through national advertising and international sales force. Commission basis. Owner sets sales price / - / \$10,000 to several million dollars / D1
- Consolidated Electrodynamics Corp. Control Data Corp. — see C24
- Control Equipment Corp.
- Cyber-tronics, Inc. — see C22A
- Data Processing Equipment Exchange Co.
- Digital Development Corp.
- Digitronics Corp.
- Dura Business Machines, Div. of Dura Corp., 32200 Stephenson Highway, Madison Heights, Mich. 48071 / Dura MACH 10 automatic typewriter / DESCR: punch paper tape, edge punch card, input-output device for systems applications. Auxiliary punch reader available. Speed, 175 wpm / USE: data processing, business systems applications, computer input-output, numerical control, etc. / \$2600 to \$4000 / D1
- Electronic Memories, Inc. — see C51, M2 and C24
- English Electric-Leo-Marconi — see C22A
- ESS GEE, Inc.
- Friden, Inc., a Subsidiary of the Singer Co., 2350 Washington Ave., San Leandro, Calif. 24577 / 5010 Computer* electronic billing accounting machine / DESCR: produces completed invoices at electronic speeds; stores numbers; performs calculations in milliseconds; equipped with a removable program panel. *A trademark of Friden, Inc. / USE: for billing and accounting / \$6000 to \$7000 / D1
- General Electric Co., Computer Dept.
- General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div., Andrews Rd., Hicksville, N.Y. 11802 / data processing equipment / DESCR: data acquisition processing, storage and display. Over-all system design and programming for on/off line computers, sensors and output devices / USE: variety of information handling systems involving analog and digital processes / various / D1
- The GYREX Corp.
- International Computers & Tabulators — see C24
- ITT Federal Laboratories
- Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N.J. 07424 / data acquisition & recording systems / DESCR: general-purpose data processing systems incorporating built-in growth potential permitting system capacity expansion to 1024 points and 2000 points per second scanning rate / USE: logs, monitors, and alarms multiple process parameters / - / D1
- Kearfott Div., General Precision, Inc., Aerospace Group, *a / programmed measurement & check-out systems / DESCR: combines programmable checkout system with high-speed (10,000 samples/sec) digital data acquisition system & magnetic tape recording system / USE: digital data multiplexed for digital computer analysis / - / D1
- Massey Dickinson Co., Inc. Missouri Research Laboratories, Inc., 2109 Locust St., St. Louis, Mo. 63103 / model 160A universal logic translator / DESCR: universal interface for digital equipment / - / \$600 to \$1050 / D1
- Mohawk Data Sciences Corp.
- Moore Associates, Inc., 893 American St., San Carlos, Calif. 94070 / digital control, telemetry and data transmission systems / DESCR: solid state systems for interface with computers and computer components in applications requiring transmission of digital data or telemetry from remote unmanned locations / USE: transmission via leased voice grade or teletype channel keying DC or tones / \$1500 and up / D1
- Ray Myers Corp.
- Non-Linear Systems, Inc.
- Edward Ochman Systems
- Robins Data Devices, Inc., 15-58 127th St., Flushing, N.Y. 11356 / hand encoders / DESCR: custom code wheel containing up to 41 custom codes / USE: creation of new tapes and editing of existing tapes / \$40 to \$400 / D1
- Robins Data Devices, Inc., *a / punch tape splicers / DESCR: butt splices by use of pre-punched pressure sensitive patches over precision feed hole pins / USE: edits, corrects, attaches end of rolls, and loops punched tapes / \$35 to \$125 / D1
- Robins Data Devices, Inc., *a / tape winders / DESCR: speed 50 rpm, with tension arm to stop tape from tearing / USE: to take up tape as it comes from computer / \$30 to \$125 / D1
- Southern Computer Service Systems Sales Co.
- Technitrol, Inc.
- Telemetrics, Inc. — see C24A
- United Data Processing, 1001 S.W. 10th, Portland, Ore. / key punch trainer / DESCR: machine and program designed to improve speed and accuracy of both experienced and inexperienced operators / USE: for industry and schools / - / D1
- UNIVAC Div. of Sperry Rand Corp.
- ZUSE KG, Bad Hersfeld, Germany, P.O.B. 340 / ZUSE Z 16 / DESCR: punched tape perforating, copying and checking unit / USE: data recording and processing equipment / \$4400 to \$8000 / D1
- D2. DATA RECORDING EQUIPMENT**
- The Bristol Company
- Bryant Computer Products — see M2
- Burroughs Corp.
- Butler Roberts Associates, Inc., Sub. of Oki Electronics of America, Inc. — see C22A
- Century Electronics & Instruments, Inc.
- Colorado Instruments, Inc., Garden Office Center, Broomfield, Colo. 80020 / C-Dek / DESCR: keyboard for gathering data for computer processing. Readout punch paper tape, magnetic tape, or cards. Modular construction, built with as many keystrips as application requires / USE: accounting data, scientific data, cost reporting, etc. / \$1000 up / D2
- Computron, Inc., Member of the BASF Group — see T3
- Consolidated Electrodynamics Corp. Control Data Corp. — see C24
- Cook Electric Co., Data-Stor Div., 6401 W. Oakton St., Morton Grove, Ill. 60053 / M58 tape transport / DESCR: militarized high speed, up to 112.5 ips, 200 and 556 bpi; 1/2" tape, 10 1/2" reels, 7 channels. 19" W x 42" H x 12" deep / USE: computer input-magnetic tape / \$7000 to \$9000 / D2
- Cook Electric Co., Data-Stor Div., *a / Model 59 tape transport / DESCR: high speed up to 112.5 ips, 200 and 556 bpi; IBM compatible; 1/2" tape, 10 1/2" reels, 7 channels; 19" W x 24 1/2" H x 16" deep / USE: computer input-magnetic tape / \$7000 to \$9000 / D2
- Cook Electric Co., Data-Stor Div., *a / Model 150 incremental tape recorder and write electronics / DESCR: computer peripheral equipment. Operates at 200 bpi or 556 bpi. Stepping rates to 300 char/sec; 1/2" tape, 10 1/2" dia. reels, IBM compatible / USE: record digital data at random rates / \$4350 to \$6200 / D2
- Cybernetics General Co., 4247 Park Blvd., San Diego, Calif. 92103 / punch-card data recorder / DESCR: mechanical device for punching IBM cards in binary fashion according to information program on rotating drum. Card holder, linked to drum, is moved under punch as drum rotates / USE: inventory control credit reporting, self-administered tests and opinion survey / \$400 to \$500 / D2
- Dayton Electronic Products Co., Inc., 117 E. Helena St., Dayton, Ohio 45404 / Logic Circuits / DESCR: 250 K, 1 MC and 5 MC, engineer for custom application data acquisition, production and quality control systems. Also produce portable digital labs / - / - / D2
- Dymec Div. of Hewlett-Packard Co., 395 Page Mill Rd., Palo Alto, Calif. 94306 / digital data acquisition systems / DESCR: instrumentation systems to scan multiple analog signals, sequentially measure signals digitally and record measured data on printed strip, magnetic tape, punched card or punched tape / USE: measuring applications / \$4200 to \$20,000 / D2
- Dymec Div. of Hewlett-Packard Co., *a / digital data plotting systems / DESCR: systems accept digital data on magnetic tape, punched card or tape and reduce to X-Y smooth curve or point plot / USE: data plotting applications / \$7000 to \$14,000 / D2
- Evershed & Vignoles Ltd. — see C24A
- Farrington Electronics, Inc., Shirley Industrial Area, Springfield, Va. / optical character recognition equipment / DESCR: operates either on-line or off-line with card, paper tape or magnetic tape outputs. Will read typed, printed or computer printed documents / USE: computer input systems / \$60,000, up / D2
- Fischer & Porter Co.
- The Foxboro Co., 38 Neponset Ave., Foxboro, Mass. 02035 / data logging computers / DESCR: data logging computers which acquire, compute, and log both analog and digital data / - / \$75,000 to \$150,000 / D2
- Hewlett-Packard
- Honeywell, Denver Div., 4800 E. Dry Creek Rd., Denver, Colo. 80217 / Honeywell 6200 incremental digital magnetic tape recorder / DESCR: records synchronous or random data on 7-track computer-compatible tape with uniform packing density of 200 bits per inch / USE: data recording in data acquisition systems / \$5000 to \$6000 / D2
- International Computers and Tabulators Ltd.
- International Electro-Magnetics, Inc.
- Kearfott Div., General Precision, Inc. — see D1
- Kleinschmidt Div., SCM Corp., Lake Cook Rd., Deerfield, Ill. 60015 / Model 321 ADS / DESCR: high-speed data communications set, including printer, keyboard, punch and reader / USE: communications or EDP systems / - / D2
- Leeds & Northrup Co.
- Non-Linear Systems, Inc.
- Omnitronics, Inc. — see P10
- Pacific Electro Magnetics Co., Inc., 942 Commercial St., Palo Alto, Calif. 94303 / Model 110 and Model 120 portable instrumentation tape recorders / DESCR: analog/digital, combine laboratory performance capabilities and reliability with light weight, low power consumption and unusual flexibility, readily adapt to broad range of portable and mobile environments. Tape widths of 1/4, 1/2, or 1 1/4, speed to 60 ips, up to 14 ch rec/repro / USE: portable and mobile data acquisition systems / \$5000 to \$20,000 / D2
- Systems Engineering Laboratories, Inc., P. O. Box 9148, Fort Lauderdale, Fla. 33310 / MOBIDAC / DESCR: Mobile Data Acquisition System and Recording System, self contained and designed for use in both static and mobile testing applications / - / - / D2
- Systems Engineering Laboratories, Inc., *a / SEL 600 System / DESCR: high speed solid-state data acquisition system / - / - / D2
- Techni-rite Electronics, Inc., 65 Centerville Rd., Warwick, R.I. / data recording equipment / DESCR: broad range of analog, event, and Ana-Vent recorders (combines analog and event) from single channel portable to multi-channel systems / USE: read-out for analog computers / \$600 to \$1000 / D2
- 3M Co., Revere-Mincom Div., 300 S. Lewis Rd., Camarillo, Calif. / Mincom magnetic tape instrumentation recorders / DESCR: high-performance magnetic tape recorders, predominantly solid state. Systems range from 300 kc to 1.5 megacycles frequency response. Analog, FM and digital (1000 bpi) / USE: government and aerospace ground telemetry and control stations, data processing centers / - / D2
- Towson Laboratories, Inc.
- Trak Electronics Co., Inc. — see C26
- ZUSE KG — see D1
- D2A. DATA REDUCTION EQUIPMENT**
- Benson-Lehner Corp.
- E-A Industrial Corp., 2326 S. Cotner Ave., Los Angeles, Calif. 90064 / process control computers / DESCR: digital systems and digital computers for process control, direct digital controllers / USE: for process control / \$25,000 to \$150,000 / D2A
- General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div. — see C10
- Hagan Controls Corp., a subsidiary of Westinghouse, 250 Mt. Lebanon Blvd., Box 11606, Pittsburgh, Pa. 15228 / alarm indicating monitor (AIM) / DESCR: alarm monitoring instrument designed to accept analog inputs as low as 10 mV. Scans at 5 points/sec. One hundred point unit is 24" by 24" by 72". Accuracy ±0.1% / USE: monitors inputs and alarms on controls to prevent off-normal conditions / \$40,000 to \$100,000 / D2A
- Hagan Controls Corp., a subsidiary of Westinghouse, *a / series 3000 data logger / DESCR: multipoint data logger with normal log and off normal log features. Solid state design. Five points per second scan rate. One point per second print rate. Accuracy 0.1% / USE: marine and stationary data logging applications / \$30,000 to \$200,000 / D2A
- Industrial Nucleonics Corp.
- Kearfott Div., General Precision, Inc. — see D1
- Quindar Electronics Inc. — see S1
- The Roback Corp., Huntingdon Valley, Pa. 19006 / pulse conditioning / DESCR: pulse signal conditioning equipment for noise removal, formatting, etc. / USE: with PCM telemetry receivers / \$3000 and up / D2A
- Systems Engineering Laboratories, Inc., P. O. Box 9148, Fort Lauderdale, Fla. 33310 / SEL 700 system / DESCR: data system to process a variety of input data tapes or information; is compatible with SEL 600 systems / - / - / D2A
- D3. DELAY LINES (COMPUTER TYPES)**
- Andersen Laboratories, Inc.

Products and Services

The Artronic Instrument Co., 11232 Triangle Lane, Silver Spring, Md. 20902 / delay lines / DESCR: miniature molded military grade L-C pulse delay networks for printed circuit mounting with earth satellite grade ruggedness and reliability in hundreds of standard types / USE: delaying all types of signals, as pulse-forming networks / \$10 to \$310 / D3

Audio Instrument Co., Inc. Columbia Technical Corp., 24-30 Brooklyn-Queens Expressway West, Woodside, N.Y. 11377 / delay lines / DESCR: electromagnetically passive delay lines (lumped constant, distributed constant, mechanically variable, electrically variable, magnetic core delay cable) / USE: pulse delay / \$3 to \$3000 / D3

Computer Control Co., Inc. Computer Devices Corp. Corning Glass Works, 3900 Electronics Drive, Raleigh, N.C. / glass memories and modules / DESCR: digital delay line types and modules including sense, drive and amplifier functions / USE: scratch pad memories, etc. / as low as .0075¢ per bit / D3

Digital Devices, Inc. 212 Michael Dr., Syosset, L. I., N. Y. / delay lines / DESCR: magnetostrictive delay lines, interface electronics, complete serial and parallel memory and buffer systems / - / from \$5 per bit including electronics / D3

El-Rad Manufacturing Co., 4300 N. California Ave., Chicago, Ill. 60610 / delay lines / DESCR: units for conventional wiring and printed circuit applications. Hermetically sealed and epoxy encapsulated construction / USE: in computers for delay of pulses; sine wave phase shifting / \$1.50 to \$250 / D3

General Instrument Corp., Defense and Engineering Products Corp., Radio Receptor Div., Andrews Rd., Hicksville, N. Y. 11802 / delay lines / DESCR: magnetostrictive, longitudinal and torsional delay lines for digital and analog computers / USE: computers, coders and decoders, simulators, missiles and aircraft / \$100 to \$3000 / D3

Microsonics, Inc. Technitrol, Inc. Torotel, Inc. -- see A3 G. C. Wilson & Co.

D4. DESK CALCULATORS

Friden, Inc., a subsidiary of the Singer Co., 2350 Washington Ave., San Leandro, Calif. 94577 / 130 electronic calculator / DESCR: desk size; gives answers in milliseconds; entries and answers on cathode ray tube screen; automatic transfer of intermediate answers / USE: business, scientific and engineering calculations / \$2150 / D4

Wyle Laboratories, 128 Maryland St., El Segundo, Calif. 90246 / Wyle scientific electronic calculator / DESCR: the Wyle scientific electronic calculator will perform all standard arithmetic operations (including square root) on numbers up to 24 digits. Features include automatic handling of decimal point, register transfer capability, and punched card input / USE: any scientific or business computation / \$3950 to \$4350 (including card reader) / D4

D6. DIFFERENTIAL ANALYZERS

E. I. du Pont de Nemours & Co. Raytheon Computer, 2700 S. Fairview St., Santa Ana, Calif. 92704 / TRICE/440 computer / DESCR: solid state parallel digital differential analyzer for solution of differential equations and other dynamic problems / USE: simulation and hybrid computing / \$89,600 and up / D6

D11. DISCS, MAGNETIC

Anelex Corp. -- see M2 Bryant Computer Products -- see M2 Data Products Corp. -- see M2

Digital Development Corp., 5575 Kearney Villa Rd., San Diego, Calif. / magnetic discs / DESCR: capacity to 250 million bits at 3600 rpm; read-write selection electronics. System capabilities operate with standard computers. Sealed units provide max. reliability for continuous operation and extreme environments / USE: computer memory / \$15,000 to \$250,000 / D11

Friden, Inc., a subsidiary of the Singer Co., 2350 Washington Ave., San Leandro, Calif. 94577 / 6018 magnetic disc file / DESCR: operates on-line with the 6010 electronic computer; stores 122,880 alphanumeric characters; features automatic address verification and variable length data capability / USE: with 6010; storage of payroll, invoice, inventory, accounting, etc. data / \$7000 to \$8000 / D11

D12. DRUMS, MAGNETIC

Bryant Computer Products -- see M2 Cognitronics Corp., 549 Pleasantville Rd., Briarcliff Manor, N. Y. / magnetic drum systems / DESCR: 2 lines of drums and associated logic. Capacities 200,000 and 650,000 bits / - / \$1000 to \$25,000 / D12

Digital Development Corp., 5575 Kearney Villa Rd., San Diego, Calif. / magnetic drums / DESCR: capacity to 1024 tracks at 3600 rpm; read-write selection electronics; sealed units provide max. reliability for continuous operation and extreme environments / USE: computer memory / \$1500 to \$40,000 / D12

General Instrument Corp., Systematics & Magne-Head Div. International Computers and Tabulators Ltd. S-I Electronics, Inc. Sperry Gyroscope Co. Unimation Inc., 16 Durant Ave., Bethel, Conn. / Dynastat magnetic memory drum / DESCR: continuous medium drum with electro magnetic write and read heads; recording and readout made on stationery as well as rotating drum / USE: to automate conveyor systems / \$250 per channel / D12

E0. ECONOMIC RESEARCH

EDP Management, Inc., P. O. Box 393 New York, N. Y. 10008 / information cost effectiveness / DESCR: control and management of software cost, defining economic trade off points, utility of information systems to reliability and worth of economic initiative problems / - / \$15 and \$40 per net hr. / E0

EDP Management, Inc. -- see C22, R12A Planning Research Corp., 1100 Glendon Ave., Los Angeles, Calif. 90024 / market research / DESCR: penetrating market analyses (current or long-range) for hardware systems, under development or planned / USE: evaluates objectively a specific set of hardware for manufacturer's management / - / E0

E1. EDUCATION

Anelex Corp., 150 Causeway St., Boston, Mass. 02114 / Anelex service training course / DESCR: training course available to all printer user personnel. Equips qualified students to perform field service operations on Anelex printers. Each class limited to 10 students / USE: printer maintenance school / - / E1

Automation Institute of America, Inc., 821 Market St., Suite 437, San Francisco, Calif. 94103 / complete data processing training / DESCR: courses in card punch, IBM machine operation and wiring, computer programming, systems and procedures. Computers installed on premises for hands-on training / USE: preparation for careers in data processing / - / E1

Basic Systems Inc., 880 Third Ave., New York, N. Y. 10022 / custom

training courses / DESCR: consultants with client, designs and produces self-instructional training courses for customer, salesman and engineering training / USE: in accordance with design specifications / dependent on length of course / E1

Basic Systems Inc., *a / self-instructional texts / DESCR: courses include introduction to electronic data processing, required COBOL - 1961, introduction to transistors, basic transistor circuits, binary arithmetic and PERT / USE: requires no instructor. Can be used either during or after working hours / \$7.50 to \$90 / E1

Brandon Applied Systems, Inc. -- see C30

Control Logic, Inc. -- see C24A Digital Equipment Corp. -- see C9 and B6

EDP Management, Inc. see C22 Mellonics Systems Development Div. of Litton Systems, Inc., 505 W. Olive Ave., Sunnyvale, Calif. 94086 / technical audio visual / DESCR: teaching machine, production prompting and other training programs / USE: orientation, progress report, proposal summary and general marketing support audio-visual presentations / - / E1

Warren Associates, 433 Putnam Ave., Cambridge, Mass. / software for class scheduling, etc. / DESCR: complete data processing systems for secondary schools and universities, from problem analysis to system implementation / - / - / E1

F1. FACSIMILE EQUIPMENT

Eastman Kodak Co. Xerox Corp., P. O. Box 1540, Rochester, N. Y. 14603 / Xerox LDX scanner and printer / DESCR: high speed, high capacity facsimile equipment for today's transmission facilities / USE: for transmission of graphic information over short and long distances / - / F1

F5. FLOORS

The Acratod Co. -- see T3A Floating Floors, Inc., (subsidiary of National Lead Co.), 22 E. 42nd St., New York, N. Y. 10017 / raised flooring / DESCR: available in die cast aluminum 18" x 18"; or 24" x 24" panels; also die formed painted steel panel 24" x 24". Pedestal mounted to allow for unlimited access / USE: for computer rooms / - / F5

Floating Floors, Inc., *a / Redi-Way / DESCR: floor surface cable duct system, engineered for compact data processing centers. Provides complete enclosure and isolation of power and signal cables. Non-skid covering on walk-over sections / USE: as enclosure for power and signal cables to eliminate hazardous conditions / - / F5

General Electric Co., Laminated Products Dept., Coshocton, Ohio / G-E Perma-Kleen Tile / DESCR: high pressure laminated plastic floor tile / USE: surfacing for free-access floor modules / 60¢ to 80¢ sq. ft. / F5

Lisley Aluminum, Inc., Box 580, Glen Burnie, Md. 21061 / ELAFLOR / DESCR: computer room free access elevated flooring of 4 types, extruded or die cast aluminum, steel core and steel. On stringerless or stringer system. Available with grilles, damper, cutouts and handrail systems / USE: flooring in EDP and other electronic installations / - / F5

Lisley Aluminum, Inc., *a / "SPACE-MAKER" movable aluminum partition systems / DESCR: designed to give EDP room flexibility to meet future requirements and changes in equipment and facilities; adjunct of complete floor system / USE: room dividers for EDP installations / F5

Washington Aluminum Co., Inc., Knecht Ave. and P. R. R., Baltimore, Md. 21229 / computer flooring / DESCR: all steel, raised,

free access / USE: in computer rooms to support the heavy equipment with wiring underneath (also ventilation, heating and air conditioning). Modules are airtight where they join / bid prices given / F5

F5A. FORMS, CONTINUOUS

Allied/Ergy Business Systems, Inc. Autographic Business Forms, Inc., 45 E. Wesley St., S. Hackensack, N. J. 07606 / continuous data processing forms / DESCR: continuous carbon-interleaved or carbonless forms. Provided with forms design service and systems planning assistance / USE: high speed printer applications / - / F5A

Baltimore Business Forms, Inc., 3132 Frederick Ave., Baltimore, Md. 21229 / continuous forms / DESCR: custom designed and stock tabulating forms / USE: computer printers / - / F5A

Baltimore Business Forms, Inc., *a / datacard sets / DESCR: tabulating card combined in one-time carbon set to gather all source information at point of business transaction. Information on card is ready for punching / - / - / F5A

W. H. Brady Co., 727 W. Glendale Ave., Milwaukee, Wis. 53209 / tab labels / DESCR: self-sticking labels in 29 stock sizes mounted on pin-feed liner. Specials made-to-order with preprinted copy in any size / USE: printed on computer printer attachment / \$2.50/1000 labels to \$11/1000 labels / F5A

Graphic Controls Corp., 109 Van Rensselaer St., Buffalo, N. Y. 14210 / GC data processing forms / DESCR: continuous, manifold marginally punched forms. Stock forms, imprint or custom design. Area coated carbon, micr printing / USE: high speed data processing printers / - / F5A

Phillip Hano Co., Inc., 85 Sargeant St., Holyoke, Mass. / continuous forms marginally punched / DESCR: custom, standard, stock tab and tab imprints. All production lithographed. Stapled, pasted, and crimped fastening available / USE: typewriters, bookkeeping machines, data processing machines, electronic computers / - / F5A

Allen Hollander Co., Inc. Moore Business Forms, Inc., Research Div., 1001 Buffalo Ave., Niagara Falls, N. Y. / continuous forms, tab card forms / DESCR: multiple part continuous forms and tabulating cards and card sets for every data processing forms need; forms-handling equipment / - / - / F5A

National Blank Book Co., Holyoke, Mass. 01042 / data processing binders / DESCR: especially for continuous forms; hard covers or pressboard for active use or storage; featured cable post gives easy access to burst or unburst forms / - / \$7.75 to \$6.75 / F5A

The Standard Register Co., 626 Albany St., Dayton, Ohio 45401 / continuous forms / DESCR: wide variety, tailor-made and stock forms, varying sizes, plies, weights for office and high speed business machines / - / - / F5A

Uarco Inc. Wheelindex, Inc.

F7. FORMS HANDLING EQUIPMENT

The Acratod Co. -- see T3A Approved Business Machines Co. Bell Telephone Mfg. Co., Automation Systems Div. -- see D1

Cheshire, Inc. Moore Business Forms, Inc. The Rapids Standard Co., Inc. The Standard Register Co., 626 Albany St., Dayton Ohio 45401 / bursters and burster-imprinters / DESCR: equipment to separate continuous forms into individual documents, stacking in order; imprinter attachments add messages, signatures, etc.; electrically operated / - / - / F7

The Standard Register Co., *a / card forms die cutter / DESCR: equipment to die cut tabulating cards from continuous web; information

Products and Services

entries can be made while form still continuous / - / - / F7
The Standard Register Co., *a / forms separator, high speed / DESCR: in 4-, 6-, and 8-part configurations with chutes and stacking trays for each part of multi-part continuous forms, equipment removes carbons, separates parts / - / - / F7
The Standard Register Co., *a / linefinders / DESCR: manual and electric; attached to typewriters, other key-driven machines; speeds up vertical forms movement; skips unwanted lines / - / - / F7
Uarco Inc.

G1. GENERATORS, FUNCTION

Datapulse Inc.
EDP Corp.
Elgenco Inc.
Fairchild Controls, Div. of Fairchild Camera and Instrument Corp.
Fairchild Space and Defense Systems General Computers, Inc.
General Radio Co., 22 Baker Ave., W. Concord, Mass. 01701 / electronic function generators / DESCR: instruments for producing sine and square waves, staircase or ramp waveforms, pulse bursts, sync signals, pedestals, doublets, binary digits, and many more waveforms / USE: testing all types of electronic equipment including data-handling equipment / \$185 to \$2500 / G1
The A. W. Haydon Co.
Hewlett-Packard — see G2
Industrial Control Co.

G2. GENERATORS, FUNCTION, ELECTRONIC

Argonaut Associates, Inc., P. O. Box K, Beaverton, Ore. / LRG 051 triple function generator / DESCR: produces a sawtooth waveform of accurately stable duration, a coincident positive gate waveform, and a delayed positive pulse / USE: high power pulses of isolated pulses may be produced when used in conjunction with other Argonaut instrumentation / \$225 / G2
The Bendix Corp., Eclipse-Pioneer Div.
Burr-Brown Research Corp.
Control Logic, Inc. — see C24A
Elgenco Inc.
Hewlett-Packard, 1501 Page Mill Rd., Palo Alto, Calif. 94304 / electronic function generators (3) / DESCR: one provides sine-square-triangular waveforms 0.008 cps-1200 cps; another, sine and square wave, 360° phase variable, 0.00005 cps-60 kc; third, has various plug-in units / - / \$535 to \$1200 / G2
Information Displays, Inc., 102 E. Sandford Blvd., Mount Vernon, N. Y. 10550 / CURVILINE character generator / DESCR: generates letters, digits and symbols for display on CRT. Rates as fast as 100,000 characters per second. 36, 70, and 128 symbol units standard / USE: in computer controlled CRT displays / \$2400 to \$7100 / G2
Omnitronics, Inc., 511 N. Broad St., Philadelphia, Pa. 19123 / character generators / DESCR: translates any 6-bit code into a set of up to 64 5x7 matrix characters / - / \$2500 / G2

G3. GENERATORS, FUNCTION, MECHANICAL

Codamite Corp. — see K1
Fairchild Controls, Div. of Fairchild Camera and Instrument Corp.

H1. HEADS, MAGNETIC

Applied Magnetics Corp., 749 Ward Dr., Santa Barbara, Calif. 93105 / magnetic heads / DESCR: precision magnetic recording heads custom designed. Analog, digital, interlaced and redundant assemblies. Research, prototype development and production quantities / USE: computer and instrumentation applications / \$150 to \$1500 / H1
Bryant Computer Products, Div. of Ex-Cell-O Corp., 850 Ladd Rd., Walled Lake, Mich. 48088 / magnetic recording heads / DESCR:

a wide range of both fixed-and flying-heads of the magnetic type / USE: to both record and playback information recorded on a magnetic medium, such as magnetic storage drums and disc files / \$12.50, fixed head; \$15, flying head / H1
Digital Development Corp.
General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div. — see C10
Kearfott Div., General Precision, Inc. — see C50
Lipps, Inc., 1630 Euclid St., Santa Monica, Calif. 90403 / magnetic recording heads / DESCR: manufacture of complete line of instrumentation and audio heads for professional uses / USE: association with all kinds of tape recording equipment / - / H1
Norton Associates, Inc.

H2. HEADS, MAGNETIC, READING

Applied Magnetics Corp. — see H1
Bryant Computer Products — see H1
Butler Roberts Associates, Inc., subsidiary of Oki Electronics of America, Inc. — see C22A
Digital Development Corp.
General Instrument Corp., Defense and Engineering Products Corp., Radio Receptor Div. — see C10
Lipps, Inc. — see H1
Norton Associates, Inc.

H3. HEADS, MAGNETIC RECORDING

Applied Magnetics Corp. — see H1
Bryant Computer Products — see H1
Butler Roberts Associates, Inc., subsidiary of Oki Electronics of America, Inc. — see C22A
Digital Development Corp.
General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div. — see C10
Kearfott Div., General Precision, Inc. — see C50
Lipps, Inc. — see H1
Norton Associates, Inc.

I2. INFORMATION RETRIEVAL DEVICES

Automation Dynamics Corp. — see R12A
Bryant Computer Products — see M2
The Bunker-Ramo Corp., 277 Park Ave., New York, N. Y. / series 200 display system / DESCR: CRT input/output device for use with any general purpose type computer; available with alphanumeric or block alphanumeric keyboard / USE: data entry or retrieval / - / I2
Burroughs Ann Arbor Lab. — see V1
Cognitronics Corp., 549 Pleasantville Rd., Briarcliff Manor, N. Y. / digital to audio devices / DESCR: film recorded vocabulary electronically selected for message composition. Example: computer audio output / - / \$500 to \$35,000 / I2
Computer Associates, Inc.
Control Data Corp. — see C24
General Atronics Corp. — see C32
Houston Fearless Corp.
Image Instruments, Inc.
Information Displays, Inc., 102 E. Sandford Blvd., Mount Vernon, N. Y. 10550 / computer controlled CRT displays / DESCR: large screen (21") consoles with character writing, vector generator, light pen, keyboard and other options / USE: as computer input/output device / \$12,000 to \$130,000 / I2
Itek Corp. — see M2
Jonker Business Machines, Inc.
Mast Development Co., 2212 E. 12 St., Davenport, Iowa, 52803 / model 132 random access filmstrip projector / DESCR: standard model holds 100 frames of 35mm film with pushbutton or rotary switch control. Computer controlled octal version available at extra cost / USE: screen projection and cathode ray tube overlay / standard model, less control, \$1140 / I2
Mast Development Co., *a / model 136 random access slide projector / DESCR: standard model holds 81 2" x 2" slides with pushbutton or rotary switch control. Computer controlled octal version available at extra cost / USE: screen projection and cathode

ray tube overlay / standard model, less control: \$2095 / I2
Simon M. Newman
Photo Magnetic Systems, 1800 R St., N. W., Washington, D. C. 20009 / information storage and retrieval / DESCR: design and develop information storage and retrieval systems for business and government / USE: product planning / contract / I2
Quindar Electronics Inc. — see S1 and T10
Randomatic Data Systems, Inc., 344 W. State St., Trenton, N. J. / card file / DESCR: automatic random card file for the selection and retrieval of aperture cards, microfiche, tab cards sized systems / - / \$2000 to \$3000 / I2

I2A. INFORMATION ENGINEERING

Abacus Information Management Co. — see S9
Automated Systems International
Automation Dynamics Corp. — see R12A
Booz, Allen Applied Research, Inc. Computer Associates, Inc.
Data Dynamics, Inc. — see C30
EDP Management, Inc. — see C22, P12A, R12A
EDP Management, Inc., P. O. Box 393, New York, N. Y. 10008 / EDP information systems / DESCR: management information services guiding those involved in daily operations and their management to achieve the greatest possible initiative by deliberate control / - / \$20 and \$40 per net hr. / I2A
Floating Floors, Inc. (subsidiary of National Lead Co.), 22 E. 42nd St., New York, N. Y. 10017 / S. E. S. (Site environmental system) / DESCR: compact air conditioning system: provides total environmental control, including air filtration, humidification, dehumidification, reheat, and stand-by protection, all controlled thru separately mounted master control panel / USE: installed on raised floor in computer room / - / I2A

INFORMATION DYNAMICS CORP., 80 Main St., Reading, Mass. 01867 / INFORMATION PROCESSING SERVICES / DESCR: information systems engineering and processing services; management consulting; mathematical modeling; data processing, manipulation, handling, and equipment analysis; computer programming; and computer typesetting / - / - / I2A

Planning Research Corp., 1100 Glendon Ave., Los Angeles, Calif. 90024 / information engineering / DESCR: requirements analysis for storage, retrieval of large-volume data files, including information flow, display; programming systems design / USE: solves data conversion, storage, retrieval problems of industry, government / - / I2A

Transistor Electronics Corp.
URS Corp., 1811 Trousdale Dr., Burlingame, Calif. 94011 / information engineering / DESCR: management, command and control, logistics, transportation, inventory management, maintenance, production control, personnel, administrative support, communications / - / - / I2A

I4. INTEGRATORS

Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N. J. 07424 / integrating AC to AC mechanical filters / DESCR: AC voltage integrators control amplifiers of AC tach-generator type integrator system. Integral plus proportional / USE: holds tach-generator shaft speed constant / - / I4

I5. INTEGRATORS, ELECTRONIC

Burr-Brown Research Corp.
Burroughs Ann Arbor Lab. — see V1
Evershed & Vignoles Ltd. — see C24A

I6. INTEGRATORS, MECHANICAL

Kearfott Div., General Precision, Inc. — see I4

I7. INVENTORY SYSTEMS

Colorado Instruments, Inc. — see D2
Kimball Systems, Inc., Div. of Litton Industries, 215 Daniel St., Farmingdale, N. Y., 11735 / Data-tag / DESCR: data collection system utilizing complete input facilities of small 1 1/8 x 2 7/8 document that can serve dual function of visual identification / - / - / I7
URS Corp. — see I2A

K1. KEYBOARDS

Codamite Corp., P. O. Box 2518, Anaheim, Calif. 92804 / subminiature keyboard entry code generator / DESCR: 5 x 7 x 2", weighs 3 lbs. Has full keyboard and generates serial Baudot or other (optional) codes. Battery operated / USE: portable remote input to data logging or EDP systems / \$2000 to \$6000 / K1
Colorado Instruments, Inc. — see D2
Micro Switch, A Div. of Honeywell, 11 W. Spring St., Freeport, Ill. 61033 / "KB" switch/display matrix / DESCR: lighted display in pushbutton switch modules and indicators. "Auto coding" - in momentary-action switch modules with sliding contacts; coding by wiring; provide direct output to logic circuits; simplifies circuitry and installation / USE: in data and other input applications demanding vivid color display and flexibility of coding and mounting technique / - / K1
Rixon Electronics, Inc., 2121 Industrial Pkwy., Silver Spring, Md. 20904 / data message composer / DESCR: electromechanical device for composing and transmitting standardized format teletype messages to automated accounting, inventory control, and other data storage and retrieval systems / USE: real time data input to computer / - / K1
Soroban Engineering, Inc., P. O. Box 1690, Melbourne, Fla. 32902 / series FK keyboards / DESCR: electrically and mechanically interlocked; servo action; to 64 keys, coding to 16 bits / USE: input / \$400 to \$900 / K1
Wyle Laboratories, 128 Maryland St., El Segundo, Calif. 90246 / keyboards / DESCR: electronic keyboards using reed switches, can be supplied with any number of keys and with any labeling desires / USE: manual data entry or control / - / K1

L1. LIGHTS, INDICATOR

Applied Control Co.
Dialight Corp.
Drake Manufacturing Co.
Jay-El Products, Inc. 1859 W. 169th St., Gardena, Calif. 90247 / color coated lamps / DESCR: highly transmittant color coated lamps in assorted colors. Coating will not fade or burn at ambient temperatures to 3009 F. Colors controlled to chromaticity requirements / USE: edge lighted panels, annunciator systems, aircraft illumination / - / L1
Jay-El Products, Inc., *a / indicator lights and driver circuits / DESCR: single and multiple lamp circuits. 32 legend techniques. Transistor driver circuits may be built in for low level logic applications. Full range of sizes, voltages / USE: front panel mounted for control applications / \$3 to \$20 / L1
Waber Electronics Inc.

M1. MAGNETIC INK IMPRINTING

Transkrit Corp.

Products and Services

M2. MEMORY SYSTEMS

Adcom Corp.
 Ampex Corp., Computer Products Div., 9937 W. Jefferson Blvd., Culver City, Calif. 90230 / RS core memory / DESCR: large capacity, coincident current core memory with a 1 microsecond cycle time. Capacities: 4096, 8192, 12,288, and 16,384 words by 8 to 56 bits / USE: large capacity computer applications / not available / M2

Analex Corp., 150 Causeway St., Boston, Mass. 02114 / Model 80 random access disk file / DESCR: small memory with unlimited capacity and fast access time through use of interchangeable disk kits; each containing 6 disks with total capacity of 24,000,000 bits / USE: small and medium scale data processing systems / - / M2

Analex Corp., *a / Model 800 random access disc file / DESCR: high capacity memory providing 100 millisecond access time and capacity of over 200 million bits. Extreme reliability and ease of operation / USE: medium to large computer systems / - / M2

The Bendix Corp., Eclipse-Pioneer Div.

Bryant Computer Products -- see S9

Bryant Computer Products, Div. of Ex-Cell-O Corp., 850 Ladd Rd., Walled Lake, Mich. 48088 / magnetic storage drums / DESCR: both fixed and flying-head in a wide range of operating speeds and sizes. Standard or custom; prototype and production quantities. Airborne and hydro-space drums / USE: application in electronic computers, industrial process control systems, laboratory research, and military applications / \$298 to \$43,000 / M2

Bryant Computer Products, Div. of Ex-Cell-O Corp., *a / model 2 series 4000 disc files / DESCR: production-built, random-access, mass memories; one-disc modules, ranging in capacity from 31,000,000 bits-per-disc using 285 BPI, single-bit alteration recording to 65,000,000 bits-per disc using 600 BPI, clock-format recording / USE: fast random-access store capable of delivering high data transfer rates for either series or parallel operation / \$40,000 to \$134,000 / M2

Burroughs Corp.

Burroughs Corp., Electronic Components Div., P. O. Box 1226, Plainfield, N. J. 07061 / magnetic core rope / DESCR: permanent storage or read-only memories / USE: Boolean logic, counting, arithmetic operations, encoding, decoding and memory addressing / M2

Computer Control Co., Inc.

Corning Glass Works -- see D3

Data Products Corp., 8535 Warner Drive, Culver City, Calif. 90231 / DISCFILE / DESCR: high-speed, mass random access, rotating disc memory system which adds from 35 to 920 million bits to the internal memory of digital computers / USE: to provide auxiliary storage capacity / \$49,700 to \$120,000 / M2

Decision Control, Inc., 1590 Monrovia Ave., Newport Beach, Calif. / VersaLOGIC memory system / DESCR: standard 2 usec. and 5 usec. wide margin high noise rejection coincident current core memory system employing VersaLOGIC circuitry for high efficiency and reliability / USE: buffers and main memory / \$3000 up / M2

Digital Development Corp., 5575 Kearney Villa Rd., San Diego, Calif. / memory systems / DESCR: up to 13 commands; 8.5/ms ave. access; 6 modular capacities to 250 million/bits per disc unit; up to 8 disc units per system; multiple computer I/O channels / - / \$25,000 to \$2,000,000 / M2

Electronic Memories, Inc. 12621 Chadron Ave., Hawthorne, Calif. 90250 / core memory stacks and

arrays / DESCR: ferrite cores assembled on standard or special matrices for stack configurations / USE: memory system design for industrial, commercial, scientific and aerospace applications / on request / M2

Electronic Memories, Inc. -- see C51 and C24

Fabri-Tek Inc.

Fairchild Space and Defense Systems

Ferroxcube Corp. of America

General Instrument Corp., Defense and Engineering Products Group, Radio Receiver Div. -- see C10

General Precision, Inc., Librascope Group, 808 Western Ave., Glendale, Calif. / L-400 disc memories / DESCR: a series of high-capacity disc memories, featuring a storage capacity up to 27 million bits / USE: peripheral memory or as main-frame memory / - / M2

General Precision, Inc., Librascope Group, *a / L-1500 mass memory disc files / DESCR: large-scale, random-access, high-capacity disc-file mass memories / USE: as data base in on-line, real-time computer systems, or other large data processing systems / - / M2

Haddonfield Research & Manufacturing Co., 121 Gill Rd., Haddonfield, N. J. 08033 / memory systems / DESCR: utilize quality ferrite cores for use in both standard and custom applications. All systems pass industry and military standards, and can be used in a variety of conditions / USE: as the memory of a computer / \$350 to \$20,000 / M2

International Computers and Tabulators Ltd.

Itek Corp., 10 Maguire Rd., Lexington, Mass. 02173 / MCP-1000 memory centered processing system / DESCR: mass memory units ranging in capacity from 80 million to 150 billion characters; average random access times as fast as 15 milliseconds; read out of 4 million bits per second; recording by modulated laser beam / USE: file search, file extraction, information storage and retrieval, language translation, list processing, program storage, etc. / \$90,000 to \$1,000,000 / M2

Microsonics, Inc.

The National Cash Register Co., Main & K Sts., Dayton, Ohio 45409 / CRAM (Card Random Access Memory) / DESCR: each CRAM file can handle a deck of 256 magnetic cards with a storage capacity of over 5.5 million alphanumeric characters / USE: external memory / - / M2

Potter Instrument Co., Inc.

Raytheon Computer, 2700 S. Fairview St., Santa Ana, Calif. 92704 / BIAX memory system / DESCR: non-destructive readout unit. Access times of up to 10 megacycle have been achieved. MicroBIAX, permits packing density up to 2,000 bits per cubic inch / USE: air, space and ground computers and data processing memory systems / - / M2

RCA Electronic Data Processing, Cherry Hill, Camden 8, N. J. / RCA 3488 / DESCR: random access computer equipment; stores 340.7 million characters minimum to 5.4 billion characters maximum / USE: random storage and retrieval / \$3500/month rental to \$27,500/month rental / M2

Sperry Gyroscope Co.

Systems Engineering Laboratories, Inc., P. O. Box 9148, Fort Lauderdale, Fla. 33310 / magnetic memory systems / DESCR: available in random access, sequential or sequential interlaced address configurations with automatic self testing features included, using SEL standard circuit cards throughout / - / M2

Technitrol, Inc.

Unimation Inc. -- see D12

M3. MULTIPLIERS

Avtron Manufacturing, Inc.

Hagan Controls Corp., a subsidiary of Westinghouse, 250 Mt.

Lebanon Blvd., Box 11606, Pittsburgh, Pa. 15228 / optimac multiplier / DESCR: solid state analog device designed to perform multiplication, division, square root extraction and squaring of variables. Accuracy +0.1% / USE: analog multiplier / \$1100 / M3

Weston Instruments, Inc.

M5. MULTIPLIERS, ELECTRONICS

Consolidated Electrodynamics Corp. Intectron, Inc., 2300 Washington St., Newton Lower Falls, Mass. 02162 / model 150A-1 multiplier / DESCR: fast-response electronic analog multiplier capable of handling more than 100,000 products per second / USE: meets a wide range of qualitative performance, and high-speed response requirements in computers, control systems and analytical instruments / \$1950 to \$3000 / M5

PHILBRICK RESEARCHES, INC., Allied Dr. at Rte. 128, Dedham, Mass. 02026 / ELECTRONIC MULTIPLIERS / DESCR: electronic analog computing components that provide multiplication, division, squaring, and rooting. Logarithmic types may also compute non-integral powers / - / \$375 to \$1365 per channel / M5

M7. MULTIPLIERS, SERVO

Industrial Control Co.

O1. OFFICE MACHINES

Charles Bruning Div., Addressograph Multigraph Corp.

Butler Roberts Associates, Inc., Sub. of Oki Electronics of America, Inc. -- see C2A

Data Trends, Inc., 1259 Rte. 46, Parsippany, N. J. 07054 / DTI reader-adder / DESCR: card actuated lister, printer, accumulator automatically processes figures read from standard 80 or 51 column-12 row tabulating cards at 10 characters per second / USE: off-line / - / O1

Data Trends, Inc., *a / DTI reader-typewriter / DESCR: card actuated automatic typing of information read from standard 80 or 51 column-12 row tabulating cards at 10 characters per second. Numeric or alphanumeric output / USE: off-line / - / O1

International Computers & Tabulators -- see C24

Liskay Aluminum, Inc.

Prestoseal Mfg. Corp., 37-12 108th St., Corona, N. Y. 10068 / splitters and related accessories / DESCR: butt-weld, reinforced butt-weld and overlap splicing equipment / USE: to splice and edit input/output information, paper tape (gilled or chemically treated paper, paper-mylar-paper, metallized mylar), magnetic tape and microfilm / \$565 to \$2400 / O1

Xerox Corp., P. O. Box 1540, Rochester, N. Y. 14603 / Xerox® 914® copier / DESCR: fully automatic, dry copying machine which produces up to 7 copies a minute on ordinary paper. Accommodates all originals, including three-dimensional objects / USE: document copying / lease or purchase / O1

O2. OPERATIONS RESEARCH (see also "Survey of Consulting Services")

Booz, Allen Applied Research Inc.

Brandon Applied Systems, Inc. -- see C30

C-E-I-R, Inc. -- see C27

Computer Associates, Inc.

EDP Management, Inc. -- see C22, P12A, R12A

Halbrecht Associates Inc.

Planning Research Corp., 1100 Glendon Ave., Los Angeles, Calif. 90024 / operations research / DESCR: computer applications of regression analysis and dynamic programming to system data analysis and preliminary design / USE: provides management with insight

into design and operations approaches / - / O2

URS Corp., 1811 Trousdale Dr., Burlingame, Calif. 94011 / operations research / DESCR: mathematical modelling and simulation in inventory, production and traffic control; communications; combat, management and administrative operations, and command and control systems / - / - / O2

P1. PANELS

Automation Dynamics Corp., 35 Industrial Pkwy., Northvale, N. J. 07647 / panels / DESCR: central command control panel systems for programming monitoring recording and controlling functions / - / - / P1

Cadre Industries Corp.

Hammond Manufacturing Co., Ltd., 394 Edinburgh Rd., N. Guelph, Ontario, Canada / panels / DESCR: metal panels, all types, steel or aluminum, support or relay racks, cabinets, desks, consoles, equipment tables, chassis and hardware / USE: mounting computer components and systems / \$1 to \$1000 / P1

Mac Panel Co., 2060 Brentwood St., High Point, N. C. 27262 / IBM control panels and wires / DESCR: light weight control panels for IBM accounting machines and plug-wires for programming the panels / USE: for programming IBM accounting machines / - / P1

Edward Ochman Systems

Omnitronics, Inc., 511 N. Broad St., Philadelphia 23, Pa. / events recorder / DESCR: OMNI-DATA events recorder provides X-T recording using electrostatic printing techniques / - / \$35,000 (unit quantity) / P1

P2. PANELS, JACK

Control Logic, Inc. -- see C24A

Hammond Manufacturing Co., Ltd. -- see P1

P3. PANELS, RELAY RACK

Hammond Manufacturing Co., Ltd. -- see P1

P4. PAPER TAPE

National Blank Book Co., Holyoke, Mass. 01042 / paper tape / DESCR: precision width and thickness; plain or oil treated; top performance, no lint, no ragged edges; all sizes and colors / - / \$.45 to \$1.30 / P4

Paper Manufacturers Co., 9800 Bustleton Ave., Philadelphia, Pa. 19115 / Perfection® Perforator Tape / DESCR: paper, film and fiber tapes in a wide variety of colors; 11/16", 7/8" and 1" widths; 8" and 14" diameters; rolls or fan folded / USE: various / - / P4

P5. PATCH CORDS

Mac Panel Co., 2060 Brentwood St., High Point, N. C. 27262 / plug-board programming systems / DESCR: patchboards, patchboard receiver mechanisms and patchcords. Systems in 12 different sizes ranging from 200 to 5120 positions. Also fixed systems and custom designed systems / USE: interchangeable programming / - / P5

Vector Electronic Co., Inc., 1100 Flower St., Glendale, Calif. 91201 / pre-programming patchboards / DESCR: removable patch panels and receptacle frames with 204, 300, 450, 600 and 1200 contacts; cadmium plated steel frame; epoxy patch panels with alphanumeric screened legend / USE: test and control, computers, data processing and automation equipment / \$75 to \$262 / P5

Waber Electronics Inc.

P6. PLOTTERS

Benson-Lehner Corp.

Burroughs Ann Arbor Lab. -- see V1

Products and Services

- California Computer Products, Inc. Electronic Associates, Inc.
- The Gerber Scientific Instrument Co., P. O. Box 305, Hartford 1, Conn. / Series 600 automatic drafting system / DESCR: digital control draws or scribes incremental, linear data. Tilttable tables to 5" x 20". Speeds to 300 ipm, accuracies to .001 inch / USE: data plotting, automatic drafting, tape verification / \$19,800 to \$80,000 / P6
- The Gerber Scientific Instrument Co., *a / Series 1000 automatic drafting systems / DESCR: digital control plots absolute or incremental data with linear or circular interpolation, decimal scaling. Does routing, scribing, photo exposing sensitized materials. Accuracies to .001 inch / USE: automatic drafting, tape verification, printed circuit artwork generation / \$74,800 to \$100,000 / P6
- Omnitronics, Inc. -- see P1
- Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa. 19115 / analog field plotter cat. 24 / DESCR: solves complex two-dimensional field or flow problems using electric current flow patterns on conducting paper; available in industrial and educational models / USE: electric fields produce two-dimensional analog plot / \$295 / P6
- Westgate Laboratory, Inc. ZUSE KG, Bad Hersfeld, Germany, P. O. B. 340 / ZUSE Z 64 "Graphomat" / DESCR: punched tape, punched card or on-line controlled automatic plotters / - / \$20,000 to \$45,000 / P6
- P6A. PLUGBOARDS**
- Mac Panel Co. -- see P5
- Vector Electronic Co., Inc., 1100 Flower St., Glendale, Calif. 91201 / plugboards / DESCR: punched and unpunched cards with varicon or edgepin connectors and receptacles; printed circuit cards and receptacles; epoxy paper, glass and copper clad; also micro circuitry plugboards / USE: plug-in circuit cards / \$.90 to \$5.58 / P6A
- Virginia Electronics Co., Inc., River Rd. & B and O Railroad, Washington, D. C. 20016 / patchboards / DESCR: basic mating arrangement is knife switch having real positive contact; full wiping action with contact pressure between 1.5 and 2 lbs. / USE: in test equipment, computers, communication systems, etc. / \$35 to \$600 / P6A
- P9. PRINTERS**
- Butler Roberts Associates, Inc., Sub. of Oki Electronics of America, Inc. -- see C22A
- Clary Corp.
- Codamite Corp., P. O. Box 2510, Anaheim, Calif. 92604 / subminiature teleprinter / DESCR: alphanumeric, 100 wpm, 8" x 10" x 6", designed for vehicular use in shock and vibration environment. Input Baudot, ASCII, etc., serial or parallel. Electromechanical impact type with few moving parts / USE: to print communications data / \$1500 to \$6500 / P9
- Creed & Co., Ltd. (assoc. of ITT Corp.)
- Franklin Electronics, Inc., Div. of Anelex Corp., E. 4th St., Bridgeport, Pa. 19405 / digital printers / DESCR: series 1000 and 1200 high speed digital printers; 40 lps, 20 columns per line. Digital or alphanumeric print out / - / \$1500 to \$5000 / P9
- Photon, Inc.
- P10. PRINTERS, HIGH SPEED**
- Anelex Corp., 150 Causeway St., Boston, Mass. 02114 / magnetic tape print station / DESCR: complete high speed, off-line, printer system consisting of an Anelex tape transport and Series 5 buffered printer operating at 600 or 1250 lpm / USE: heavy duty printout independent of a computer / - / P10
- Anelex Corp., *a / multiple tape lister system / DESCR: high speed system containing six 24 column printing stations capable of producing one to six independent lists at speeds up to 2000 lpm / USE: bank transit accounting operations, production control / - / P10
- Anelex Corp., *a / series 5 printers / DESCR: two basic configurations: High Speed (1250 lpm) and Medium Speed (600 lpm); four standard sizes 80, 120, 132 and 160 columns - buffered and unbuffered. Wide range of options / USE: medium and large scale data processing systems / - / P10
- Anelex Corp., *a / Franklin printers / DESCR: series 1000 and 1250 include both digital and alphanumeric models; operate at speeds from 10 to 40 lps with 1 to 20 columns, depending upon individual requirements / USE: instrumentation, process control and data processing / - / P10
- Anelex Corp., *a / slow speed printer / DESCR: small, desk size printer operating at speeds up to 300 lpm provides big printer capability with up to 160, 128 character columns / USE: small scale computers and communications / - / P10
- Burroughs Ann Arbor Lab. -- see V1
- Century Electronics & Instruments, Inc.
- Clary Corp.
- Data Products Corp., 8535 Warner Dr., Culver City, Calif. 90231 / line printer / DESCR: reliable impact printer which performs digital output printing at speeds of 300 through 1000 lines-per-minute / USE: either off-line, or interfaced to digital computer to provide on-line digital output printing / \$15,000 to \$35,000 / P10
- DI/AN Controls, Inc.
- Franklin Electronics Inc. -- see P9
- Information Displays, Inc. -- see I2 and G2
- Kleinschmidt Div., SGM Corp., Lake-Cook Rd., Deerfield, Ill. 60015 / model 311 electronic data printer / DESCR: high speed on-line printer, including keyboard / USE: for computer I/O, or for data communications / - / P10
- Omnitronics, Inc., 511 N. Broad St., Philadelphia 23, Pa. / electrostatic strip printers / DESCR: OMNI-DATA electrostatic recorders are non-contact, non-impact printers performing equivalent functions of punchers and impact printers / - / \$7000 to \$20,000 (unit quantities) / P10
- Photomechanisms, Inc., 15 Stepar Pl., Huntington Sta., N. Y. 11746 / DATASTAT and DATASTAT II / DESCR: hard copy generators / USE: produce hard copy from CRT displays / \$15,000 to \$25,000 / P10
- Potter Instrument Co., Inc.
- Shepard Laboratories, Inc.
- Societe d'Electronique et d'Automatisme
- Soroban Engineering, Inc., P. O. Box 1690, Melbourne, Fla. 32902 / MT-50 page printer / DESCR: 50 characters/second; 6 parallel bit character-serial input; single or multiple copies / USE: output / \$14,000 / P10
- Soroban Engineering, Inc., *a / PT-2 perforator/printer / DESCR: highly reliable paper tape punch/printer; to 100 cps / USE: output; provides punched tape with printed characters / \$14,000 / P10
- Technitrol, Inc.
- P12. PRINTERS, LINE-A-TIME**
- Anelex Corp. -- see P10
- Franklin Electronics, Inc. -- see P9
- General Radio Co., 22 Baker Ave., W. Concord, Mass. 01781 / data printer / DESCR: up to 12 digits can be printed at a rate of 3 prints per second / USE: to convert decimal-coded information into printed form / - / P12
- International Computers and Tabulators Ltd.
- P12A. PROGRAMMING SERVICES**
- Abacus Information Management Co. -- see S9
- American Data Services, Inc.
- Aries Corp.
- Auerbach Corp. -- see C30
- Automation Sciences, Inc. -- see C30
- Booz, Allen Applied Research Inc.
- Brandon Applied Systems, Inc. -- see C30
- Computer Applications Inc., 555 Madison Ave., New York, N. Y. 10022 / computer consulting including analysis, programming and data processing services / DESCR: specialists in the analysis and programming of business data processing systems and scientific computing. Highly versatile and experienced service bureaus / - / by contractual arrangements on either a fixed price or time-and-material basis / P12A
- Computer Associates, Inc.
- Control Data Corp. -- see C24
- Cybernetics General Co., 4247 Park Blvd., San Diego, Calif. 92103 / proprietary programs, programming services / DESCR: machine language translators from 1401, 1410 and 7094 to system 360; CGC-VESS, space trajectory computer system; LOLA, logical language for machine-independent compilers; VECTRAN, vector/matrix language / - / - / P12A
- The Data Corp. -- see C27
- Data Dynamics, Inc. -- see C30
- EDP Management, Inc. -- see C22, C30, I2A, R12A, S9
- EDP Manager, Inc., P. O. Box 393, New York, N. Y. 10008 / program layout through programming system manufacture / DESCR: audit, review, document, design, specify, debug, convert, implement, systems interface in all aspects of software use. Efficiency criteria, programming production control and estimates and system coordination / - / \$15 to \$25 per net hr. / P12A
- Philip Hanks & Co. Inc.
- Informatics, Inc. -- see C30
- Information Dynamics Corp. -- see I2A
- Mellonics Systems Development Div. of Litton Systems, Inc., 505 W. Olive Ave., Sunnyvale, Calif. 94086 / digital computing programming services / DESCR: military, scientific and administrative data systems analysis, design and development for small, medium and large-scale systems. Compiler development (special and general purpose), programming systems / - / - / P12A
- National Computer Analysts, Inc., U. S. Highway 1, Lynnwood Dr., Princeton, N. J. 08540 / programming services / DESCR: systems design, equipment selection, programming of commercial and scientific computer applications / - / - / P12A
- Planning Research Corp., 1100 Glendon Ave., Los Angeles, Calif. 90024 / programming systems / DESCR: programming services (for government and industry) for military systems, software support systems (including JOVIAL compilers), scientific programming (including simulation and gaming), commercial data processing applications (including numerical control), information storage and retrieval / USE: provides programming systems to solve wide variety of commercial, military and other government applications / - / P12A
- The Scam Instrument Corp.
- Statistical Tabulating Corp.
- Technitrol, Inc.
- URS Corp., 1811 Trousdale Dr., Burlingame, Calif. 94011 / programming services / DESCR: programming languages, computer simulations, real-time routines, executive routines, operating systems, assembly programs, monitors, report generators, file processors, information storage and retrieval, compilers / - / - / P12A
- Wolf Research & Development Corp., Baker Ave., P. O. Box 36, West Concord, Mass. 01781 / programming services / DESCR: mathematical analysis and programming services. Large staff of analysts and programmers with experience in programming scientific, engineering, business, industrial, aerospace and military applications / USE: virtually all commercially available digital com-
- puters / - / P12A
- P13. PUBLICATIONS**
- Commerce Clearing House, Inc., 4025 W. Peterson Ave., Chicago, Ill. 60646 / automation reports / DESCR: fortnightly reports accumulated in looseleaf binders describe and index 10,000 articles annually on computers, peripheral equipment and information science for current awareness and retrospective searching / USE: reference and research / \$350 per year / P13
- The Diebold Group, Inc., 430 Park Ave., New York, N. Y. 10022 / ADP Newsletter / DESCR: published on alternate Mondays; a professional publication on latest applications and market developments and commercial and scientific information systems; edited by senior consultants of the Diebold Group, Inc. and published by the Management Science Publishing, Inc. / - / \$37.50 per year, by subscription only / P13
- Hayden Book Co., 116 W. 14th St., New York, N. Y. 10011 / textbooks and engineering books / DESCR: technical books on programming, management, systems and devices / - / - / P13
- Informatics, Inc. -- see C30
- Pergamon Press, Inc., 44-01 21st St., Long Island City, N. Y. 11101 / A. D. Booth: Digital Computers in Action / DESCR: discussion of modern applications of the computer in science, medicine, engineering, law and the arts / - / \$1.95, paperback / P13
- Pergamon Press, Inc., *a / K. C. Parton: The Digital Computer / DESCR: description of the technical and commercial uses, including automatic coding, of the computer / - / \$2.95, paperback / P13
- John Wiley & Sons, Inc.
- P15. PUBLICATIONS, MAGAZINES**
- Data Processing Management Association, 524 Busse Highway, Park Ridge, Ill. 60068 / Journal of Data Management / DESCR: Journal of DATA MANAGEMENT's provides its readers with pertinent and stimulating articles and current developments in the data processing industry / USE: educational / \$5 per year / P15
- The Standard Register Co., 626 Albany St., Dayton, Ohio 45401 / "Paperwork Simplification" / DESCR: magazine containing case histories involving uses of business forms, forms handling equipment / - / - / P15
- P15A. PUNCH CARD ACCESSORIES**
- Beemak Plastics
- W. H. Brady Co., 727 W. Glendale Ave., Milwaukee, Wis. 53209 / key punch correction seals / DESCR: pre-cut, self-sticking squares of polyester film to correct mispunched holes in tab cards / USE: applied over hole / 20¢ to 32¢ per card of 32 seals / P15A
- P16. PUNCH CARD MACHINES**
- Approved Business Machines Co., Inc. Cyber-tronics, Inc. -- see C22A
- Data Processing Equipment Exchange Co.
- Data Trends, Inc., 1259 Rte. 46, Parsippany, N. J. 07054 / DTI card duplicator / DESCR: complete duplicators cards in accordance with IBM specifications, at 10 columns per second. Optional keyboard feature allows selective duplication and variable information input / USE: off-line / - / P16
- Data Trends, Inc., *a / DTI card punch / DESCR: punches alphanumeric and special symbols, in Hollerith or other coding systems, into standard 80 or 51 column-12 row tabulating cards. Automatic card feed optional / USE: on-line or off-line / - / P16
- Data Trends, Inc., *a / DTI pro-

Products and Services

gram unit / DESCR: can be cable connected to MTI card punch or card reader to control fields to be skipped, punched, or read / USE: on-line or off-line / - / P16

International Computers & Tabulators -- see C24

Soroban Engineering, Inc., P. O. Box 1690, Melbourne, Fla. 32902 / card punch / DESCR: end-fed; punches 80 or 51 column cards; 450 or 650 cards/minute max.; on demand / USE: output / - / P16

R1. READERS

Bell & Howell Micro-Data Div.
Butler Roberts Associates, Inc.,
Sub. of Oki Electronics of America, Inc. -- see C22A

Fairchild Space and Defense Systems
Philco Corp.

Philips Electronic Instruments

R2. READERS, CHARACTER

Dialight Corp.
Farrington Electronics, Inc. -- see D2

R2.5 READERS, FILM

Benson-Lehner Corp.
Information International, Inc.,
200 Sixth St., Cambridge, Mass. / programmable film reader / DESCR: reads and analyzes completely automatically scientific data recorded on film / USE: reduction of radar, theodolite and other types of photographic data / \$250,000 to \$500,000 / R2.5

International Computers and Tabulators Ltd.

R3. READERS, MAGNETIC CARD

Consolidated Avionics

R4. READERS, MAGNETIC TAPE

Digitronics Corp.
Trak Electronics Co., Inc. -- see C26

R6. READERS, PAPER TAPE

Addo-X, Inc., ADP Div., 270 Park Ave., New York, N. Y. 10017 / Addo-X tape reader / DESCR: 12 characters per second paper tape reader. Reads 5, 6, 7 or 8 channel tape; posting to adding or bookkeeping machine / - / - / R6

Digitronics Corp.

Facit-Odhner, Inc., 222 E. 44th St., New York, N. Y. 10017 / paper tape reader / DESCR: reads 5 to 8 track tapes at 500 or 1000 characters per second. Stops between characters / USE: input to data processing and data transmission systems / \$3000 to \$4000 / R6

International Computers and Tabulators Ltd.

Omnitronics, Inc., 511 N. Broad St., Philadelphia, Pa. 19123 / paper-tape readers / DESCR: OMNI-DATA series of high-performance readers designed for all bidirectional or unidirectional paper-tape applications at tape speeds up to 100 inches per second / USE: companion to the reader in digital systems / \$665 to \$1900 / R6

Omnitronics, Inc. -- see T9

Photocircuits Corp., 31 Sea Cliff Ave., Glen Cove, N. Y. 11542 / photoelectric tape readers / DESCR: complete line of tape readers all utilizing the printed motor direct drive capstan which eliminates pinch rollers, brakes and clutches / USE: computer input and automatic checkout systems / \$1750 to \$3990 / R6

Soroban Engineering, Inc., P. O. Box 1690, Melbourne, Fla. 32902 / FFR tape readers / DESCR: anemometer sensing; for any tape including clear mylar; 300 cps character-by-character, stops on character / USE: input / \$3950 / R6

R7. READERS, PHOTOELECTRIC

Cook Electric Co., Data-Stor Div.,
6401 W. Oakton St., Morton Grove, Ill. 60053 / military paper tape readers / DESCR: Models 52, 5300, 54, 56, 90, 91, 92, M110, M111, 112, 113 high speed-militarized perforated tape readers / USE: military computers and missile programs / \$5000 to \$12,500 / R7

Digitronics Corp.

General Atronics Corp. -- see C32

Omnitronics, Inc. -- see T9

Sigma Instruments, Inc.

R8. READERS, PUNCH CARD

Burroughs Corp.
Data Trends, Inc., 1259 Rte. 46, Parsippany, N. J. 07054 / DTI card reader / DESCR: reads alphanumeric and special symbols, prepared in Hollerith or other coding systems, from standard 80 or 51 column-12 row tabulating cards. Automatic card feed optional / USE: on-line or off-line / - / R8

Dennison Manufacturing Co., Machines Systems Div.
Digitronics Corp.

Drexel Dynamics Corp., Maple Ave., Morsham, Pa. 19044 / static punch card readers / DESCR: complete line of data card, parallel static readers-commercial and mil spec. types. Manual or remote electrical operation. All contact forms / USE: computer programming, systems testing, or process reference control / \$350 to \$6600 / R8

Friden, Inc., a Subsidiary of the Singer Co., 2350 Washington Ave., San Leandro, Calif. 94577 / automatic card reader / DESCR: reads standard Hollerith coded punched cards. Equipped with automatic card feed system; hopper holds up to 200 cards / USE: reads tab cards; provides rapid, accurate conversion of coded source data to a variety of business forms / \$2800 to \$3100 / R8

Soroban Engineering, Inc., P. O. Box 1690, Melbourne, Fla. 32902 / card reader / DESCR: 2 photoelectric reading stations; 1200 cards/minute on demand; end-fed / USE: input / \$10,000 to \$15,000 / R8

Uptime Corp., 15910 W. 5th Ave., Golden, Colo. 80401 / SPEEDREADER 400 / DESCR: medium speed serial punched card reader with an asynchronous rated speed of 400 80 column cards per minute. Both reading and timing is done photoelectrically / USE: card input system / \$3500 to \$6000 / R8

Uptime Corp., *a / SPEEDREADER 800 / DESCR: high speed serial punched card reader with an asynchronous rated speed of 800 80 column cards per minute. Both reading and timing is done photoelectrically / USE: card input system / \$4500 to \$9000 / R8

Uptime Corp., *a / SPEEDREADER 1500 / DESCR: high speed serial punched card reader with an asynchronous rated speed of 1500 80 column cards per minute. Both reading and timing is done photoelectrically / USE: card input system / \$8000 to \$14,000 / R8

R9. RECORDING PAPERS

The Bristol Company
E. I. du Pont de Nemours & Co.
International Computers and Tabulators Ltd.

Paper Manufacturers Co. -- see P4

R11. REGISTERS, SHIFT

Control Logic, Inc. -- see C11 and C24A

General Atronics Corp. -- see C32

R12. RELAYS (Computer Types)

API Instruments Co.
The Bristol Company
C. P. Clare & Co.
Dialight Corp.
Dialtron Corp.
Douglas Randall, Inc., a subsidiary of Walter Kidde & Co., Inc., 441

Pawcatuck Ave., Westerly, R. I. 02891 / read relays / DESCR: switching components for data transfer / - / \$2 to \$20 / R12

Magnecraft Electric Co., 5575 N. Lynch Ave., Chicago, Ill. 60630 / relays / DESCR: high speed relays / USE: for computer applications / \$1.50 to \$10 / R12

Solid State Electronics Corp.
Union Switch & Signal Div. of Westinghouse Air Brake Co.
Weston Instruments, Inc.
G. C. Wilson & Co.

R12A. RESEARCH

Automation Dynamics Corp., 35 Industrial Pkwy., Northvale, N. J. 07647 / research and development / DESCR: commercial and MIL system. Device development for automated control, simulation, test, multiplexing, conversion, alarm, etc. Specialized antenna systems. Full prototype manufacturing and documentation services / - / - / R12A

Booz, Allen Applied Research Inc.
Bulova Watch Co., Inc., Systems and Instruments Div.
Canadian Research Institute -- see C30

Computer Associates, Inc.
EDP Management, Inc., P. O. Box 393, New York, N. Y. 10009 / communications. economic cost effectiveness of EDP information systems / DESCR: applied or directed within the systems design and programming sphere of computer software / - / by special development contract / R12A

General Instrument Corp., Defense and Engineering Products Group,
Radio Receptor Div. -- see C10

Informatics, Inc. -- see C30

International Data Corp. -- see C30

Planning Research Corp., 1100 Gledndon Ave., Los Angeles, Calif. 90024 / research / DESCR: modified Bayes theorem development; research into theory of syntactic structures, modeling of several abstract automata for their recognition / USE: develops improved techniques for solving clients' problems / - / R12A

U. S. Navy, Marine Engineering Laboratory (Computer Div.) / research / DESCR: 1401 IBM/16 K - mathematical analysis and research, programming, engineering, computing and data processing services for government / USE: research / - / R12A

URS Corp. -- see O2

R14. RESOLVERS

IMC Magnetics Corp., Western Div.
Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N. J. 07424 / resolvers / DESCR: all types and sizes. Translators and resolver amplifier combinations / USE: computers, servomechanisms and systems / \$35 up / R14

R15. RESOLVERS, COORDINATE TRANSFORM

Kearfott Div., General Precision, Inc. -- see R14

R16. RESOLVERS, PRODUCT

Kearfott Div., General Precision, Inc. -- see R14

Weston Instruments, Inc.

R17. RESOLVERS, SINE-COSINE

Clifton Precision Products, Div.
Litton Precision Products -- see S2A

Kearfott Div., General Precision, Inc. -- see R14

R18. ROBOTS

Unimation Inc., 16 Durant Ave., Bethel, Conn. / Unimate industrial robot / DESCR: versatile and obsolescence-proof automation; taught on the job in a few minutes, and thereafter repeats the job until the job is completed / USE: to automate standard

machines / appx. \$25,000 / R18

R18A. RIBBONS, DATA PROCESSING

The Acratod Co. -- see T3A

Aetna Products Co., Inc.
Analex Corp., 150 Causeway St., Boston, Mass. 02114 / high speed printer ribbons / DESCR: finest quality Italian silk ribbons; evenly coated with specially formulated inks / USE: Analex high speed printers systems / - / R18A

Columbia Ribbon & Carbon Mfg. Co., Inc., Herhill Rd., Glen Cove, N. Y. 11542 / fabric ribbons / DESCR: silk, cotton and synthetic fabric ribbons / USE: business machines and high speed printers / depends on machine / R18A

Columbia Ribbon & Carbon Mfg. Co., Inc., *a / SF-100 ribbon / DESCR: reusable mylar base ribbons / USE: typewriter, tabulators, high speed printers / depending on machine / R18A

New Era Ribbon & Carbon Co., Inc.
Quest Manufacturing Co.
F. S. Webster Co., Interchemical Corp.

S1. SCANNERS

Approved Business Machines Co., Inc.
Automation Dynamics Corp. -- see R12A

James Cunningham, Son & Co., Inc.
The Data Corp. -- see C27

English Electric-Leo-Marconi -- see C22A

The Foxboro Co., 38 Neponset Ave., Foxboro, Mass. 02035 / industrial alarm scanners / DESCR: scanners which monitor analog signals for out-of-limit conditions. Include on-demand indication and continuous trend recording / - / \$30,000 to \$60,000 / S1

General Atronics Corp. -- see C32

F. B. MacLaren & Co., Inc., 15 Stepar Pl., Huntington Sta., L. I., N. Y. 11746 / scanners / DESCR: unit provides servoed optical elements to scan models and maps in azimuth and elevation, introduce image roll, and maintain proper focus for simulation systems / USE: for custom designed simulator programs / - / S1

The National Cash Register Co., Main & K Sts., Dayton, Ohio 45409 / NCR 420 optical scanner / DESCR: converts information from NOF journal tapes (adding machines or sales registers) to punched paper tape for computer processing / USE: on-line or off-line / - / S1

Quindar Electronics Inc., 60 Fadem Rd., Springfield, N. J. 07081 / scanner system, QSS-1 / DESCR: time division multiplex system for transmitting 2-state data. Can be carried over narrow band tone channels. Up to 40 points carried on one QSS-1. Up to 25 QSS-1 may be frequency multiplexed on one voice circuit / - / \$2800 and up / S1

RCA Electronic Data Processing, Cherry Hill, Camden 8, N. J. / RCA Videocan / DESCR: optical character reader / USE: combines scanning ability of RCA Vidicon tube with data handling of RCA 301 to process hourly up to 90,000 printed documents / average monthly rental: \$3500 / S1

The Scam Instrument Corp.

S2A. SERVO MECHANISMS

Airpax Electronics, Inc.
Automation Dynamics Corp. -- see R12A

Bowmar Instrument Corp.
Clifton Precision Products, Div. of Litton Precision Products, Inc., Marple at Broadway, Clifton Heights, Pa. 19018 / sine-cosine resolvers, servomechanisms, synchros / DESCR: electro-mechanical devices, rotary components / USE: to electrically transmit intelligence / negotiated / S2A

Clifton Precision Products, Div. of Litton Industries -- see S8

Evershed & Vignoles Ltd., Acton Lane Works, Chiswick, London W. 4, England / F.H.P. and servo motors /

DESCR: servo motors up to 1/2 h.p. Range includes d.c., d.c. and stepping types, plus turbo-generators, gearheads, amplifiers, combination units / USE: electrical servo systems / \$20 to \$364 / S2A

Industrial Control Co. Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N. J. 07424 / servomechanisms / DESCR: all types for all applications / USE: computers, controls, integrations, etc. / \$350 up / S2A

F. B. MacLaren & Co., Inc., 15 Stepar Pl., Huntington Sta., L. I., N. Y. 11746 / servo systems / DESCR: custom designed electro-mechanical assemblies to perform addition, subtraction, multiplication, division, integration, differentiation or followup and data conversion functions, in both military and industrial applications / USE: all instrument servo applications / - / S2A

Sigma Instruments, Inc., 170 Pearl St., Braintree, Mass. / cyclonome / DESCR: single phase, high torque, synchronous stepping motor - 0 - 500 steps/second / USE: positioning, counting, converting, synchronizing / \$49 to \$215 / S2A

M. Ten Bosch, Inc. Weston-Boonshaft and Fuchs, Hatboro Industrial Pk., Hatboro, Pa. / servo controls / DESCR: servo controls to produce dynamic environments / - / \$1000 to \$250,000 / S2A

Weston-Transicoil, Worcester, Pa. / servomechanisms and special control systems / DESCR: precision analog and digital electromechanical servo systems for high performance miniaturized applications / - / - / S2A

S3. SIMULATORS

Aircraft Armaments, Inc., York Rd., Cockeysville, Md. 21030 / simulators / DESCR: air traffic control, missile training (REDSTONE, SERGEANT, ATLAS, POLARIS, NIKE-HERCULES), anti-submarine warfare training, space vehicle, radar target, 3-axis flight / USE: training, test and evaluation of personnel, components and systems / custom / S3

Automation Dynamics Corp. -- see R12A

Comcor, Inc. -- see C22A

Datapulse Inc.

Dian Laboratories, Inc.

Image Instruments, Inc.

Mellonics Systems Development Div. of Litton Systems, Inc., 505 W. Olive Ave., Sunnyvale, Calif. 94086 / digital computer simulation programs / - / USE: for detailed modeling and evaluation of complex systems concepts and implementation approaches in satellite, command and control, transportation, commercial and industrial systems / - / S3

Societe d'Electronique et d'Automatisme

Weston-Boonshaft and Fuchs -- see S2A

S4. STORAGE SYSTEMS

Decision Control, Inc. Electronic Memories, Inc. -- see C51, M2, and C24

General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div. -- see C10

Image Instruments, Inc.

Itek Corp. -- see M2

Monarch Metal Products, Inc., MacArthur Ave., New Windsor, N.Y. 12551 / data processing accessory equipment / DESCR: items necessary and vital in proper handling, moving and storing of tabulating cards and control panels used with punched card machines and in the proper handling, moving and storing of magnetic tape used in computers made by all manufacturers / - / \$6 to \$350 / S4

The Mosler Safe Co., 320 Park Ave., New York, N.Y. 10022 / Tapeguard / DESCR: housing for safe storage of data processing tapes, disk packs, etc. / USE: pro-

ducts tapes from hazards of fire, smoke, moisture / \$2000 to \$2500 / S4

Edward Ochman Systems The Rapids Standard Co., Inc. Records Reserve Corp., 751 Clay Rd., Rochester, N.Y. 14623 / C-300 series panel board storage cabinet / DESCR: one basic exterior design with six standard interior arrangements to hold six different size panel boards. Wiring desk and castored dolly are available / USE: as above / \$250 to \$400 / S4

Wright Engineering Co., Inc.

S5. STORAGE SYSTEMS, MAGNETIC

Bryant Computer Products -- see M2

Burroughs Corp. Decision Control, Inc. Digital Development Corp., 5575 Kearney Villa Rd., San Diego, Calif. / storage systems, magnetic / DESCR: up to 13 commands; 8.5/ms ave. access; 6 modular capacities to 250 million bits per disc unit; up to 8 disc units per system; multiple computer I/O channels / - / \$25,000 to \$2,000,000 / S 5

Electronic Memories, Inc. -- see C51, M2 and C24

Lockheed Electronics Co., Avionics and Industrial Products Div. -- see C51

Monarch Metal Products, Inc. -- see S4

Monrobot Systems Div., Monroe International, Inc., 550 Central Ave., Orange, N.J. 07051 / Monroe-Card magnetic processor / DESCR: provides greatly enlarged, easily accessible data storage capacity for Monrobot XI, using card with magnetic oxide coating. Data may be erased and updated and card may be used almost indefinitely. Storage capacity ten times that of a tabulating card / USE: provide additional capacity for Monrobot XI system / \$6500 / S3

S6. SWITCHES

Amphenol-Borg Electronics Corp. The Bristol Company

Burroughs Corp., Electronic Components Div., P.O. Box 1226, Plainfield, N.J. 07061 / BEAM-X[®] switches and modules / DESCR: ten-position electronic switching device which utilizes crossed magnetic and electrical fields to control the formation and switching of an electron beam / USE: NIXIE[®] tube driver, counting coding, distribution, converting, multiplexing, switching, timing, sampling, presetting, decoding, etc. / \$24.95 and up / S6

Canadian Aviation Electronics, Ltd., P.O. Box 6166, Montreal 3, Quebec, Canada / model SR-2 solid state teleprinter relay / DESCR: transistor switch/amplifier relay unit for direct operation of teleprinter selector magnet / - / \$67 to \$75 / S6

Centralab, the Electronics Div. of Globe-Union Inc.

Chicago Switch Div., F & F Enterprises, Inc.

James Cunningham, Son & Co., Inc. Dialight Corp.

Durant Mfg. Co., 600 N. Cass St., Milwaukee, Wisc. 53201 / Durant unset switch / DESCR: decade, 10-set pushbutton selector switch, with figure wheel completely enclosed, low operating force and high current-carrying capacity / USE: numerical control / \$5.50 / S6

Engineered Electronics Co. General Devices, Inc., P.O. Box 253, Princeton, N.J. 08540 / "Microcom" (B Size) / DESCR: electromechanical commutator used in telemetry and computer applications. "Nanocom" (A size) and "Telecom" (C size) commutators also available. Solid state "Electrocoms" also available / USE: transmit data / \$500 to \$2200 / S6

Jay-El Products, Inc., 1859 W. 169th St., Gardena, Calif. 90247 / illuminated pushbutton switches / DESCR: 4 lamp circuits, 4PDT

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switching capability. 32 different legend techniques. Qualified, high environmental types for G.S.E. or airborne applications. Available for commercial application also / USE: front panel mounted for control applications / \$10 to \$30 / S6

Ledex, Inc., 123 Webster St., Dayton, Ohio, 45402 / stepping switches / DESCR: devices for transfer switching, remote control of circuit patterns, sequencing, programming, check-out, and complex switching / USE: see above / \$10 to \$50 / S6

Licon Div., Illinois Tool Works, Inc., 6615 West Irving Park Rd., Chicago, Ill. 60634 / precision switches and controls / DESCR: precision snap action single and double-break switches, illuminated pushbutton switches; hermetically and environment-free sealed switches; design and manufacture of control panels and equipment / - / \$1.50 to \$60 / S6

Micro-Lectric, Inc., 19 Debevoise Ave., Roosevelt, L.I., N.Y. 11575 / commutator switches / DESCR: constructed in potentiometer housings for stacking with pots on common shaft / - / \$14 to \$80 / S6

Micro Switch, A Div. of Honeywell, 11 W. Spring St., Freeport, Ill. 61033 / miniature dry reed switch / DESCR: LCS1 and LCS4 consist of pair of low reluctance, magnetically actuated flat metal reeds, hermetically sealed in atmosphere of dry inert gas within glass tube; 1.5" long with magnetic material terminals; 4CS1 2.25" long / USE: relays, read-out equipment, thermostats, proximity switches, etc. / - / S6

Micro Switch, A Div. of Honeywell, "a" / "Series 2" lighted push-button switches / DESCR: modular pushbutton switches offer round or rectangular display. More than 80 different colored display screens available. Wide choice in circuitry and handling power offered in 30 different switch units / USE: control and display functions / - / S6

Micro Switch, A Div. of Honeywell, "a" / "SM" subminiature switches / DESCR: single-pole double-throw, variety of terminals, available with silver contacts, UL listed at 5 amps 125/250 vac.; gold contacts for dry circuits, high-capacity 41SM-T is UL listed for 10 amps 125/250 vac. / USE: limit and control / - / S6

Micro Switch, A Div. of Honeywell, "a" / sub-subminiature basic switches / DESCR: tiniest of Micro Switch snap-action SPDT switches; "1SX1" weighs 1/28 oz.; plated turret-type terminals; available with gold or silver contacts; UL listed at 7 amps 28 vdc or 115/230 vac capacity; full-fill military specifications / USE: limit and control functions / - / S6

Micro Switch, A Div. of Honeywell, "a" / V3 - miniature basic snap-action switch / DESCR: postage stamp size, SPDT switch offers very high capacity with wide variety of terminal designs, contact arrangements, operating characteristics and long operating life. General purpose types are UL listed at 15 amps 125/250 vac; 1/4 amp 250 vdc. / USE: limit and control functions / - / S6

Transistor Electronics Corp. Waber Electronics Inc.

S7. SWITCHES, STEPPING

Burroughs Corp., Electronic Components Div. -- see S6
C. P. Clare & Co.

Durant Mfg. Co. -- see S6

Giannini Controls Corp., 1600 S. Mountain Ave., Duarte, Calif. 91010 / stepping motors / DESCR: programmed, cardinal point stepping; feed-back control; steering; etc. / USE: torpedo steering, drone helicopter control, etc. / varies, several hundred dollars / S7

Ledex, Inc. -- see S6

S8. SYNCHROS

Clifton Precision Products, Div. of Litton Industries, Marple at Broadway, Clifton Heights, Pa. / servomechanisms / DESCR: electro-mechanical devices used in the transmission of intelligence / USE: control mechanism / - / S8
Clifton Precision Products, Div. Litton Precision Products -- see S2A

IMC Magnetics Corp., Western Div. Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N.J. 07424 / synchros / DESCR: all types and sizes / USE: computers, servomechanical controls, and systems / \$35 up / S8

S9. SYSTEMS ENGINEERING

Abacus Information Management Co., P.O. Box 399, New York, N.Y. 10008 / systems software engineering / DESCR: computer programming, systems analysis; feasibility, hardware configurations; input output, real time controls / by negotiation / S9
Aircraft Armaments, Inc. -- see S3

Aries Corp.

Arky Engineering, Inc. Auerbach Corp. -- see C30
Automation Dynamics Corp. -- see R12A

Booz, Allen Applied Research, Inc. Bryant Computer Products, Div. of Ex-Cell-O Corp., 850 Ladd Rd., Walled Lake, Mich. 48088 / electronic systems / DESCR: custom-designed memory systems using standard circuit modules. Will design an entire system around customer's interface specifications of data rate, capacity, control signals and modes of operation / USE: to interconnect magnetic drum and disc file memories with computers, or data processing and control equipment / not applicable / S9

Computer Applications Inc. -- see P12A

Data Dynamics, Inc. -- see C30
EDP Management, Inc., P.O. Box 393, New York, N.Y. 10008 / configuration for applications / DESCR: cost effectiveness, reliability criteria, deliberate control, and systems analysis and design of computer-real time. Programming and systems management / - / \$20 to \$35 per net hr. / S9

EDP Management, Inc. -- see C22, EO, P12A, R12A

General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div. -- see C10

Informatics, Inc. -- see C30
Mellonics Systems Development Div. of Litton Systems, Inc., 505 W. Olive Ave., Sunnyvale, Calif. 94086 / systems engineering / - / USE: for computer applications, data control complexes for satellite systems, transportation systems loading and scheduling, management information and control systems, feasibility studies / - / S9

Ray Myers Corp. Planning Research Corp. 1100 Glenwood Ave., Los Angeles, Calif. 90024 / systems engineering / DESCR: computer techniques for circuit design and analysis; optimization of system parameters / USE: provides management with insight into design and operations approaches / - / S9

Programming & Systems, Inc. The Roback Corp., Huntington Valley, Pa. 19006 / data loggers / DESCR: for industrial measurement and control applications / USE: record data in industrial plants, etc. / \$10,000 to \$100,000 / S9

Sperry Farragut Co. Statistical Tabulating Corp. Unimation Inc. -- see D12
URS Corp. -- see I2A

T1. TAPE ACCESSORIES

Data-American Equipment Co., 333

No. Michigan Ave., Chicago, Ill. 60601 / DATA-VAULT / DESCR: hermetically sealed tape vault; fire and disaster protection for tapes and disc-packs. Custom built walk-in data-vaults / USE: protection of invaluable tape records / \$1500 to \$5300 / T1

T2. TAPE HANDLERS

Amplex Corp., Computer Products Div., 9937 W. Jefferson Blvd., Culver City, Calif. 90230 / TM-7 digital tape transport / DESCR: servo-driven, single-capstan drive tape handling system. Tape speed: 36 ips. Packing density: 200 and 556 bpi. Start/stop time: 10 ms. / USE: tape system for computer / - / T2

Amplex Corp., Computer Products Div., "a" / TM-11 digital tape transport / DESCR: servo-driven, single-capstan drive tape handling system. Tape speeds: 75, 112.5, and 120 ips. Packing density: 800 bpi / USE: for computer / - / T2

Bell Telephone Mfg. Co., Automation Systems Div., Berkenrodele 33, Hoboken, Belgium / digital magnetic tape handlers / DESCR: range of magnetic tape units with various capacities and performances based on vacuum-capstan drive / USE: connected to digital data systems and computers / \$10,000 to \$25,000 / T2

Cycle Equipment Co. Digitronics Corp.

Dresser Products Inc., 114 Baker St., Providence, R.I. 02905 / tape handling equipment and tape filing supplies / DESCR: electric and manual tape winders, rewinders, folders, unwinders, storage racks. Splicing tape. Envelopes and folders for filing tape and cards. Boxes for mailing/storage, punched tape / - / \$6 to \$150 / T2

Facit-Odhner Inc., 222 East 44th St., New York, N.Y. 10017 / paper tape reproducer / DESCR: links the Facit tape reader and punch to form a tape reproducing and editing apparatus / USE: used to duplicate, edit and combine paper tapes at up to 150 characters per second / \$1300 to \$1600 / T2

Pacific Electro Magnetics Co., Inc. -- see D2

Records Reserve Corp., 751 Clay Rd., Rochester, N.Y. 14623 / magnetic tape carrying and shipping case / DESCR: anti-magnetic case which prevents loss of information by shielding the magnetic tape from erasure by any extraneous magnetic field while in transit / USE: as above / \$24.50 to \$29.50 / T2

Records Reserve Corp., "a" / tape stopper / DESCR: elongated piece of rubber or plastic which prevents tape damage and/or loss of information by maintaining proper tension on the tape continuously / USE: fits between flanges of reel and held tightly against tape, maintaining proper tension / \$19 per C to \$26 per C / T2

Rheem Electronics, 5250 W. El Segundo Blvd., Hawthorne, Calif. 90251 / paper tape spoolers / DESCR: 150 to 1000 characters per second bidirectional spoolers. Constant tape tension. Self-adjusting brakes, broken tape and end of tape sensing. Soft tape take-up. High speed bidirectional rewind / USE: with punched paper tape readers / \$725 to \$2500 / T2

ROTRON MANUFACTURING CO., INC., Hasbrouck Lane, Woodstock, N.Y. 12498 / SPIRAL BLOWER / DESCR: high pressure/vacuum air moving device capable of developing up to 26" wg pressure or vacuum, measures 10" dia. by 5 1/2" depth. Optional accessories match exact application requirements / USE: tape transports, tape air bearings, card handling equipment, etc. / \$85 in quantity to \$165 / T2

S-I Electronics, Inc. Wright Engineering Co., Inc.

T3. TAPE, MAGNETIC

Audio Devices, Inc., 235 East 42nd St., New York, N.Y. 10017 / computer tape / DESCR: magnetic recording tape. Complete range of widths and lengths. Variety of reel types / USE: digital and analog recording data processing and instrumentation / \$20 to \$150 / T3

COMPUTRON, INC., Member of the BASF Group, 122 Calvary St., Waltham, Mass. 02154 / COMPUTAPE / DESCR: high quality, high density magnetic tape for computers and instrumentation exclusively. Guaranteed at 556, 800, or 1000 bpi. Full-width certification available / USE: computers and instrumentation / available upon request / T3

General Instrument Corp., Systematics & Magne-Head Div.

Mac Panel Co., 2060 Brentwood St., High Point, N.C. 27622 / magnetic computer tape / DESCR: mylar based magnetic tape for all major makes of computers in today's market. This includes varying lengths in both 1/2" width and 3/4" width / - / - / T3

Memorex Corp., 1180 Shulman Ave., Santa Clara, Calif. 95052 / magnetic tape / DESCR: manufacturer of computer, instrumentation, and video magnetic tapes / USE: on computers and digital equipment / \$15 and up / T3

Monarch Metal Products, Inc. -- see S4

Reeves Soundcraft, Div. of Reeves Industries, Inc., Great Pasture Rd., Danbury, Conn. / magnetic computer tape / DESCR: long wear, heavy duty computer tape 556 and 800 BPI, certified for 7 and 9 channels for use on IBM compatible tape drives / USE: to record digital information / \$25 to \$40 / T3

Tape Certifiers, Inc. -- see C30
Triton Electronics, Inc., 62-05 30th Ave., Woodside 77, N.Y. / standard and heavy duty magnetic and computer tape / DESCR: 1/2" computer tape compatible to IBM, RCA, CDC, Remington Rand, NCR and others using 1/2" tape; certified to be error free at 556 and 800 BPI with full replacement guarantee / - / \$25 to \$33 per reel / T3

T3A. TAPE, FILING SYSTEMS

The Aerated Co., 2708 Bagby (P.O. Box 66847), Houston, Tex. 77006 / data processing accessories and supplies / DESCR: card files, tape storage, magnetic tape, control panels and wires, binders, ribbons, labels. Accessories for card, tape or disc handling. Forms handling equipment. Used IBM D.P. machines / - / - / T3A

Dresser Products Inc. -- see T2
International Computers and Tabulators Ltd.
Monarch Metal Products, Inc. -- see S4

Ohio Envelope Co. Records Reserve Corp., 751 Clay Rd., Rochester, N.Y. 14623 / C-202 auxiliary tape rack / DESCR: heavy welded construction on this two reel rack which is mounted on top of tape transport to provide quick access to constantly used tapes / USE: as above / \$18.50 ea. / T3A

Wright Line, a div. of Barry Wright Corp., 160 Gold Star Blvd., Worcester, Mass. 01606 / TAPE-SEAL / DESCR: computer tape storage system designed to increase the storage capacity of tape reels. It is a unique belt which wraps around the tape reel and allows the reel to hang rather than sit into a rack / USE: to enclose tape reels for hanging storage / - / T3A

T4. TAPE, READERS

Cook Electric Co., Data-Stor Div. -- see D2
 Potter Instrument Co., Inc.
 Trak Electronics Co., Inc. -- see C26

T5. TAPE RECORDERS

Cook Electric Co., Data-Stor Div. -- see D2
 The Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex. 75040 / FM recorder/reproducers / DESCR: record to 33 deep on one reel of tape. Real-time playback at recorded speeds of from .03 to .1 ips. Frequency range .01 to 35 cps. Channels 7 to 14 / USE: long-term recording of surveillance data / \$8500 to \$12,000 / T5
 Hewlett-Packard
 Pacific Electro Magnetics Co., Inc. -- see D2
 S-I Electronics, Inc.
 3 M Co., Revere-Mincom Div. -- see D2
 Trak Electronics Co., Inc. -- see C26

T5A. TAPE REELS

The Acrotad Co. -- see T3A
 Records Reserve Corp., 751 Clay Rd., Rochester, N.Y. 14623 / aluminum precision and non-precision reels and plastic cases for magnetic tape / DESCR: includes the following reels: IBM, NAB, Honeywell, Univac, GE, RCA, and Control Data / USE: on tape transports / \$4.50 to \$15 / T5A

T6. TAPE, PAPER

Rheem Electronics -- see T2
 Rheem Electronics, 5250 W. El Segundo Blvd., Hawthorne, Calif. 90251 / photocell punched paper tape readers / DESCR: unidirectional and bidirectional models from 20 to 1000 characters/second continuous and to 200 characters/second line at a time operation. Stop on character to 50 inches per second, stop before next character to 100 inches per second. Reads 5, 7, and 8 track tape / USE: input device for data processing, numerical control, process controls, data communication systems / \$775 to \$1585 / T6
 Rheem Electronics, *a / photocell reader-spooler combination / DESCR: model RRS-302 unidirectional reading from 20 to 300 characters per second continuous and to 100 characters per second line at a time. Stops on character. Reads 5, 7, or 8 track tape. Automatic tape take-up spooling and rewind all on one 7 inch panel / USE: input device for data processing, numerical control, process control and data communications systems / \$1245 / T6

T7. TAPE, PAPER-FILING SYSTEMS

Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N.Y. / mobile tape and tab card storage / DESCR: adaptation of tape and card storage equipment on floor tracks. Eliminates aisles, adds greater capacity within existing space / - / variable / T7
 Dresser Products Inc. -- see T2
 Paper Manufacturers Co. -- see P4

T8. TAPE, PAPER-PUNCHES

Arvey Corp., 3500 N. Kimball Ave., Chicago, Ill. 60618 / manufacturing reinforced perforator (punched) computer tapes / DESCR: polyester reinforced perforator computer tapes, metalized or paper and film combinations. All standard colors available to Fed. Std. "595." All widths and thicknesses / USE: for computers and programmers using perforator tape / - / T8
 J. H. Bunnell & Co.

Burroughs Corp.
 Chalco Engineering Corp.
 Creed & Co., Ltd. (assoc. of ITT Corp.)
 Facit-Odhner Inc., 222 East 44th St., New York, N.Y. 10017 / paper tape punch / DESCR: punches 5 to 8 track tapes at up to 150 characters per second / USE: output from data processing, data logging and data transmission systems / \$4000 to \$5000 / T8
 Ledex, Inc. -- see C31
 Omnitronics, Inc., 511 N. Broad St., Philadelphia, Pa. 19123 / manual tape punch & splicer / DESCR: used for editing and correcting data in 5-, 6-, 7-, or 8-level perforated tape / - / \$28 / T8
 Soroban Engineering, Inc., P.O. Box 1690, Melbourne, Fla. 32902 / GP-2 super-speed perforator / DESCR: 300 cps, 2850 MBF, up to 8 levels; sealed crankcase-type enclosure / USE: output / \$7900 to \$13,050 / T8
 Soroban Engineering, Inc., *a / LP-2 tape perforator / DESCR: 150 cps, up to 8 levels; sealed crankcase-type enclosure; also available with reader head or printer / USE: output / \$3200 to \$7850 / T8

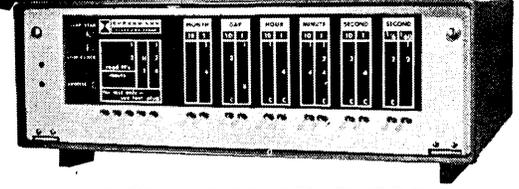
T9. TAPE, PAPER-READERS

Burroughs Corp.
 Chalco Engineering Corp.
 Electronic Engineering Co. of California
 Omnitronics, Inc., 511 North Broad St., Philadelphia 23, Pa. / photoelectric paper-tape readers / OMNI-DATA photoelectric paper tape readers are based upon reflected light reading which permits reading of virtually any tape, with no mechanical or electrical adjustments / USE: as part of data processing communications on numerical control system / \$1385 to \$1995 (unit quantity) / T9
 Photocircuits Corp. -- see R6
 Rheem Electronics -- see T6
 Sigma Instruments, Inc.
 Soroban Engineering, Inc. -- see R6

T10. TELEMETERING SYSTEMS

Airfax Electronics, Inc.
 Astrodada Inc.
 Automation Dynamics Corp., 35 Industrial Parkway, Northvale, N.J. 07647 / telemetering systems / DESCR: specialized systems, centralized environmental data acquisition and systems control with associated sensory devices translators. Specialized antenna systems / USE: meteorological data / - / T10
 The Bendix Corp. - Bendix-Pacific Div.
 The Bristol Company
 CG Electronics Div., Gulston Industries, Inc.
 Consolidated Electrodynamics Corp.
 Control Science Corp.
 Electro-Mechanical Research, Inc.
 Epsco, Inc.
 General Electric Co., Electronic Components Sales Operations
 General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div., Andrews Rd., Hicksville, N.Y. 11802 / telemetering systems / DESCR: microwave telemetry transmitter, lightweight compact equipment capable of 15 watts C W output power in the 2-3 KMC telemetry band / USE: missiles, aircraft and aerospace environment / \$3000 to \$12,000 / T10
 International Electro-Magnetics, Inc.
 International Electronic Research Corp., 135 W. Magnolia Blvd., Burbank, Calif. / telemetry transmitters & voltage controlled oscillators / DESCR: complete solid state telemetry transmitting systems 200 MC range - 2 watt output / USE: transmitting systems / \$1000 to \$2500 / T10
 Moore Associates, Inc. -- see D1
 Novatronics, Inc.

CHRONO-LOG PROGRAMMABLE CLOCK / CALENDAR



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 7010
 7040
 7070
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Products and Services

Parzen Research, Inc.
 Qindar Electronics Inc., 60 Fadem Rd., Springfield, N.J. 07081 / analog telemeter, QATS-10 / DESCR: converts varying D.C. into form suitable for transmission over narrow band tone channels on voice grade circuits. Uses 5-25 cps variable frequency signal. Produces d.c. current output proportional to input. Accuracy 1%, very stable, over -30° to +60° C. / - / \$900 up / T10

Qindar Electronics Inc. *a / tone signaling equipment / DESCR: audio tone transmitters and receivers of the FS or AM type / USE: remote control, alarm monitoring, supervision, signaling, or telemetering / - / \$90 / T10

Qindar Electronics Inc. -- see S1
 Solid State Electronics Corp.
 Telemetrics, Inc. -- see C24A
 Towson Laboratories, Inc.

T11.2. THIN-FILMS, MAGNETIC

General Devices, Inc., P.O. Box 253, Princeton, N.J. 08540 / Multiplexers or Multicoders / DESCR: solid state electrocoders or electromechanical "Nanocoders", "Microcoders", or "Telecoders" for use in telemetry and computer applications / USE: transmit data / \$950 to \$5675 / T11.2

T11.3. TIMING DEVICES

Bulova Watch Co., Inc., Systems and Instruments Div.
 CG Electronics Div., Gulton Industries, Inc.
 Chrono-Log Corp.
 Cincinnati Time Recorder Co.
 Controlmag Laboratories
 DI/AN Controls, Inc.
 E D P Corp.
 General Electric Co., Electronic Components Sales Operation
 Giannini Controls Corp., 1600 S. Mountain Ave., Duarte, Calif. 91010 / timing devices / DESCR: electromechanical timing devices, including elapsed time indicators for computer running-time, programmed timers, cycling timers, timing motors, counters / USE: compute rental charges for computers / \$5 to \$25 / T11.3

The A. W. Hayden Co.
 Jay-El Products, Inc., 1859 W. 169th St., Gardena, Calif. 90247 / solid state time delays/ relays/flashers / DESCR: standard types include present, internally adjustable, externally adjustable. Small light weight, accuracy up to 5%. Ranges from .01 to 15 minutes / USE: chassis or circuit board mounted for control and timing applications / \$25 to \$150 / T11.3

Logitek, Inc., 42 Central Dr., Farmingdale, L.I., N.Y. 11735 / timing systems, digital clocks / DESCR: generates time information for recording on magnetic tape. Searches magnetic tape automatically based on time. Outputs compatible with computer entry requirements / - / \$4000 to \$25,000 / T11.3

Microsonics, Inc.

Parzen Research, Inc.
 Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia, Pa. 19115 / time interval meter cat. 20 / DESCR: electronically measures time intervals from 1/10,000 second to 3 seconds between two events or the duration of a single event in eight ranges / USE: triggered by electric impulses / \$595 to \$780 / T11.3

Wright Engineering Co., Inc.

T12. TRANSFORMERS

Airpax Electronics, Inc.
 Aladdin Electronics
 General Electric Co., Electronic Components Sales Operation
 Hammond Manufacturing Co., Ltd., 394 Edinburgh Rd. N., Guelph, Ontario, Canada / transformers / DESCR: transformers, pulse transformers, chokes, reactors, toroids, iron core components, enclosed, open, epoxy cast, encapsulated, MILT27B / USE: components for computers / \$2 to \$200 / T12

Inductor Engineering, Inc., 117 Schley Ave., Lewes, Del. 19958 / transformers, toroid, pulse / DESCR: toroidal units laminated in standard, miniature and sub-miniature sizes, encapsulated in epoxies / USE: for voltage variation / \$5 to \$50 / T12

JB Electronic Transformers, Inc.
 Microtran Co., Inc., 145 E. Mineola Ave., Valley Stream, N.Y. 11582 / transformers and inductors / DESCR: electronic transformers and inductors, industrial and MIL-T-27A types, laminated and toroidal. Available in open frame, encapsulated, molded and hermetically sealed constructions / USE: in power supplies and control circuits for analog and digital computers / \$2 to \$25 / T12

Novatronics, Inc.
 Virginia Electronics Co., Inc., River Rd. & B and O Railroad, Washington, D.C. 20016 / transformers / DESCR: single and 3 phase, operable from 60 and 400 cycles or other specified power source; power supply and audio chokes; pulse, audio, etc. / USE: various / \$2 to \$500 / T12

T13. TRANSFORMERS, PULSE

Aladdin Electronics
 El-Rad Manufacturing Co., 4300 N. California Ave., Chicago, Ill. 60618 / pulse transformers / DESCR: units for conventional wiring and for printed circuit applications. Hermetically sealed and epoxy encapsulated types / USE: interstage coupling; pulse shaping; wide-band coupling / 90¢ to \$15 / T13

General Electric Co., Electronic Components Sales Operation
 Hammond Manufacturing Co., Ltd. -- see T12

Inductor Engineering, Inc. -- see T12

Technitrol, Inc.
 Torotel, Inc. -- see A3

T17. TRANSLATING EQUIPMENT

Canadian Aviation Electronics, Ltd., P. O. Box 6166, Montreal 3, Quebec, Canada / CT 58-T translator / DESCR: self contained solid state device for translating 5 or 8 level punched tape to 5 level serial telegraph code output / USE: on line or off line code translator / \$850 to \$1000 / T17

Canadian Aviation Electronics, Ltd. *a / CT 85-X translator / DESCR: solid state on line device receives 8 level serial data and transmits 5 level punched tape data / USE: on line or off line code translator / \$1150 to \$1300 / T17

Canadian Aviation Electronics, Ltd. *a / CT 88-T / DESCR: self contained, solid state device converts any 8 level parallel code to an 8 level serial code / USE: on-line or off-line code converter / - / T17

Canadian Aviation Electronics, Ltd. *a / CT 512-X translator / DESCR: solid state on line device that receives 5 level serial data and transmits 12 level punched card data / USE: on line or off line code translator / \$1400 to \$1600 / T17

Canadian Aviation Electronics, Ltd. *a / CT 812-X translator / DESCR: solid state on line device receives 8 level serial data and transmits 12 level punched card data / USE: on line or off line code translator / \$1400 to \$1600 / T17

Codamite Corp. -- see K1
 E D P Corp.
 Opto-Electronic Devices, Inc.
 Trak Electronics Co., Inc. -- see C42A

T18. TYPEWRITERS, ELECTRIC, CONTROLLED

Dura Business Machines, Div. of Dura Corp. -- see D1
 Soroban Engineering, Inc., P. O. Box 1690, Melbourne, Fla. 32902 / computerwriters / DESCR: electric typewriters adapted for coding and/or translating; 10 cps; various options / USE: input and/or output / \$985 to \$1990 / T18

V1. VISUAL OUTPUT DEVICES

Benson-Lehner Corp.
 Burroughs Ann Arbor Lab., P. O. Box 1307, Ann Arbor, Mich. / A-1000 graphic console / DESCR: fully buffered direct view display with symbol, vector, and line generation capability. "Rand Tablet" input device, with or without keyboard / USE: man-machine interface design automation, editing station / \$25,000 to \$100,000 / V1

Burroughs Ann Arbor Lab., *a / DIGIPRINT / DESCR: on or off line digital to microfilm recorder. Input data up to

90,000 characters/second, 20,000 lines/minute printed on 16 or 35 mm film. Plots random characters, draws lines, formatted data / - / \$125,000 to \$200,000 / V1

Burroughs Ann Arbor Lab., *a / DIGISCAN / DESCR: on or off line conversion of digital data to television image for CCTV distribution or storage. Formatted and random characters as well as line drawings / USE: inquiry systems, video storage systems / \$125,000 to \$175,000 / V1

Burroughs Corp., Electronic Components Div., P. O. Box 1226, Plainfield, N. J. 07061 / NIXIE® readout tubes / DESCR: cold cathode numeric and alpha-numeric readout tubes. Five character sizes (0.3" to 2.0") numeric and three character sizes (0.7", 1.5" and 2.5") alpha-numeric. Complete systems available / USE: computer readout, stock market quotation readout, etc. / \$11, up / V1

Burroughs Corp., Electronic Components Div. -- see C42A

CBS Laboratories, a Div. of Columbia Broadcasting Systems, Inc.

Control Science Corp., 5150 Duke St., Alexandria, Va. / data display systems / DESCR: electronic and/or electromechanical display systems / USE: presentation of visual data / - / V1

General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div. -- see C10

Information Displays, Inc. -- see I2 and G2

Kearfott Div., General Precision, Inc., 1150 McBride Ave., Little Falls, N. J. 07424 / DELSIN C70 8753 series digital EL solid state indicators / DESCR: combines solid state digital circuitry with an electroluminescent display in 1 package. Numeric and alpha-numeric. Low power, adaptable to any symbology, high speed, multiplex time shared input built in / USE: computer and other systems requiring visual readout / - / V1

Logitak, Inc. -- see T11.3

Mast Development Co. -- see I2

Non-Linear Systems, Inc.

Recognition Equipment Inc.

Wyle Laboratories, 128 Maryland St., El Segundo, Calif. 90246 / visual output devices / DESCR: visual displays or digital data on CRT's can be provided in a variety of configurations. Displays can be numeric only, alphanumeric, and with or without memory / USE: computer I/O stations / to customer's spec. / V1

- END -

ROSTER OF ELECTRONIC COMPUTING AND DATA PROCESSING SERVICES

Following is a roster of electronic computing and data processing services.

The survey form asked for:

1. Brief description of the types and quantities of computing and data processing machines and equipment which you have?
2. Brief description of the types of problems that you specialize in?
3. Number of employees?
4. Year established?
5. Any remarks?

Filled in by _____ Title _____
Organization _____
Address _____

For school, college, and university computing services, see the section of the directory "School, College, and University Computer Centers".

See also in the "Roster of Products and Services", entries under the heading "C27, Computing Services".

Each full entry from an organization that replied to the survey is in the form of: Name and address of electronic computing and data processing service bureau / Equipment / Problems specialized in / Size(number of employees) Established(year of establishment). Other entries should be self-explanatory.

The abbreviations used include the following:

- S - Size (number of employees)
- E - Established (year of establishment)
- *C - "Checked" by the organization; "65" means "in 1965", etc.

All additions, corrections, and comments will be welcome.

Abacus Information Management Co., P.O. Box 399, New York, N.Y. 10008 / EQPM: none. Have knowledge of equipment configurations and rates in the metropolitan New York area / PROB: Complete package (problem solving or information analysis) operations and consulting / S ? / E 1962 / *C 64
Actuarial Computing Service Inc., 1389 Peachtree St., Atlanta 9, Ga. / EQPM: - / PROB: actuarial of any type; specializing in insurance applications / S 6 / E 1956 / *C 64

Aeronutronic Division, Philco Corp., Mathematics and Computing Activity Engineering Operations, Ford Rd., Newport Beach, Calif. / EQPM: Philco 2000, Philco 1000, IBM 1401, 300 Amplifier EAI analog computer, Ampex and CEC magnetic tape units / PROB: Missile trajectories, rocket motor performance, aerothermodynamic heating, shock and vibration analysis, circuit analysis, ordinary and partial differential equations, business data processing / S 165 / E 1956 / *C 64

Allied Data Production, Inc., 575 Lexington Ave., New York, N.Y. 10022 / EQPM: 100 IBM key punches and verifiers / PROB: data conversion from any source document; editing; coding; punching; verifying; error correcting; to finished punched card output / S 100 / E 1964 / *C 65

The American University Center for Technology and Administrative, 1901 F St., N.W., Washington 6, D.C. / EQPM: 2 LGP-30's, 2 Flexowriters off line. Photo-electric paper tape read and punch / PROB: classroom work, information storage and retrieval / S 11 / E 1958 / *C 64

Association of Data Processing Service Organizations, Inc., 947 Old York Road, Abington, Pa. 19001 / EQPM: - / PROB: service center management / S 2 / E 1960 / *C 64

Association of Management Consultants, Inc., 947 Old York Road, Abington, Pa. 19001 / EQPM: - / PROB: data processing systems / S 2 / E 1960 / *C 64

Automated Accounting Center of Conn., 7 Field St., Waterbury 20, Conn. / EQPM: Bendix G-15D general purpose computer, NCR 315 (100 series) 5 mag. tapes, paper tape in and out, cards in and out, 800 line/min. printer, 2 NCR MICR reader sorters, National Cash Register Electronic Magnetic Ink Reader-Sorter coupled to and under control of G-15D, 2 magnetic tape units with search and erase/rewrite feature, AN-1 paper tape reader and punch (5, 6, 7 or 8 channel tape), off-line Flexowriters, Automated Postronics for ledger posting, magnetic ink printing equipment and paper tape to magnetic ink conversion equipment / PROB: commercial data processing including accounting functions, inventory and production control, statistical inventory forecasting, payroll, demand deposit accounting, engineering, and miscellaneous applications / S 7 / E 1959 / *C 65

Automation Management, Inc., 25 Brigham St., Westboro, Mass. / EQPM: performance computers: PerK I records actual production rate as a per cent of standard performance minute by minute; PerK II records per cent averaged from beginning of production run / PROB: management and automation engineering; integrated systems and processes / S 3 / E 1955 / *C 65

Bendix Systems Division, 3300 Plymouth Rd., Ann Arbor, Mich. / EQPM: CDC G-20 large scale digital computer, 32,000 word case storage, 4 magnetic tape stations, high speed printer and other off-line capabilities. High speed analog computer.

COED 11 Digital Display and control console. Punched card processing facilities. PERT, linear programming, operation analyses, other management services and a FORTRAN compiler are available / PROB: engineering, satellite and missile simulations, data processing and reduction; linear programming and PERT, etc. / S 55 (computer related employees of 1200 Bendix Systems Div. personnel) / E 1956 / *C 65

Ernest E. Blanche & Associates, Inc., 10355 Kensington Pkwy., Kensington, Md. / EQPM: 2 IBM 1401 Systems with magnetic tape and punch card input and output (4 tape drives), high speed printer; 78 IBM punch card machines; high speed microfilm camera (18-1 and 30-1 reduction); 3 microfilm readers (1-18 and 1-30 magnification) / PROB: statistical analysis, correlation analysis, analysis of variance, frequency distributions, probability, forecasting, accounting - large volumes; traffic analysis - origin-destination studies, projection of traffic, highway and transit loading; engineering - cut and fill, highway design, highway construction; mathematical computations / S 134 / E 1955 / *C 65

The Bunker-Ramo Corp., 277 Park Ave., New York, N.Y. 10017 / EQPM: Bunker-Ramo 3000 numerical contouring control system; Bunker-Ramo 3100 contour control system; Bunker-Ramo 335 control computer system, fast, low cost, industrialized flexible system for on-line, real-time data acquisition and control applications; Bunker-Ramo 130 (AN/UJK-1) and 133 Data Processing systems, medium scale, core memory, stored logic militarized computers; Bunker-Ramo 230 Comp/Set systems for automatic type justification/hyphenation; Bunker-Ramo 400 "Polymorphic" data processing system; Bunker-Ramo 530 information processor; computer communication console; display analysis console; Bunker-Ramo 65 graphic control/display console; automatic full color group display system; automatic map compilation system / PROB: all problems eligible for solution by electronic control system techniques; industrial process control; automatic stock and commodity quotations systems for the financial community; on-line banking systems; hotel and airline reservation systems; traffic control; television switching control; inventory control; machine tool numerical controls; military systems for command-control, ASW/oceanography, communications and intelligence; problems requiring computers and display devices interacting with human monitors to form integrated man-machine systems / S 2900 / E ? / *C 65

Capital Business Service, 520 East Michigan Ave., Lansing, Mich. / EQPM: IBM 1401 computer and punched card equipment / PROB: large number of tested standard programs for accounting and business. Experienced in paper tape handling / S 55 / E 1943 / *C 64

Computing Services

- CARDF, P.O. Box 1427, Quebec, P.Q. Canada / EQPM: IBM 1620; EAI Dataplotter / PROB: scientific and engineering / S 21 / E 1951 / *C 65
- C-E-I-R, Inc., One Farragut Square S., Washington 6, D.C.; centers in Washington, New York, Boston, San Francisco, Los Angeles, Mexico City, London, The Hague / EQPM: Washington: RCA 501 and 301, IBM 7090 and peripheral equipment. New York: IBM 7094 and peripheral equipment. Los Angeles: IBM 7094. San Francisco: IBM 7094. Boston: IBM 7090 and peripheral equipment / PROB: linear programming, mathematical model building, operations research, military command and control systems, war gaming, information storage and retrieval, weapons systems analysis, space vehicle trajectories, transportation optimization, production scheduling, management decision-making systems, business strategy games, sampling and statistical design, site selection studies, financial analysis, marketing research, process-analysis and inter-industry analysis, application of Monte Carlo methods, matrix calculations, engineering problems, reliability and quality-control programs, design of experiments and field tests, engineering and industrial research, electronics and communications, radio-spectrum utilization, value engineering, etc. / S 900 / E 1954 / *C 65
- Collins Radio Co., Communications & Data Systems Div., Dallas, Tex. / EQPM: Collins-C-8000 series includes full line of medium and large-scale communication and data processors, peripheral equipment and data transmission devices / PROB: telegraph message switching and processing, high speed data transmission and integration of communication with data processing networks / S 675 / E 1933 / *C 64
- Computation & Analysis Lab., U.S. Naval Weapons Lab., Dahlgren, Va. / EQPM: STRETCH (IBM 7030); NORC (Naval Ordnance Research Calculator); Universal Data Transcriber; IBM 1401 systems; plus auxiliary equipment / PROB: exterior ballistics and geoballistics, weapons trajectories, orbits of earth satellites, weapons effectiveness studies, computer simulations, general scientific and engineering problems. Services available to government activities and contractors / S 350 / E 1946 / *C 65
- Computech, Inc., 575 Lexington Ave., New York 22, N.Y. / EQPM: Two 1460 16K tape systems with ancillary unit record equipment / PROB: scientific and commercial data processing, computer programming and analysis services, computer processing services, methods system design, market research, and consulting services for problem-solving / S 130 / E 1957 / *C 65
- Computer Advisors to Management (CAM), Division of Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / EQPM: 14 data processing and computer centers, nationwide, containing IBM 1400-series card tape systems plus peripheral equipment and conventional punch card tabulating data processing machines / PROB: professional consulting for business, science, and government in the economic evaluation and application of computer systems for management information and control / S 5000 / E 1933 / *C 64
- ComputerMat, Inc., 1111 Wilshire Blvd., Los Angeles 17, Calif.; 1664 W. Anaheim St., Wilmington, Calif. / EQPM: IBM 1620 Data Processing System, complete data processing or "self-serve" use; Calcomp X-Y digital plotting; complete line IBM tab equipment / PROB: civil, structural, petroleum and chemical engineering, numerical control, process and systems analysis, operations research, economic analysis, feasibility studies, business and special commercial applications / S 15 / E 1960 / *C 64
- Computing Services Company, a Div. of KCS Ltd., 20 Spadina Rd., Toronto 4, Canada / EQPM: Burroughs B283 and B5500 / PROB: all types of computing services provided / S 130 / E 1954 / *C 65
- Control Data Corp., 8100 34th Ave., So. Minneapolis, Minn. 55440, and elsewhere / EQPM: Control Data Digital Computers, solid state; magnetic tape transports, card punches, card readers, line printers, paper tape punch readers, plotters, data phones, card read/punches, printers / PROB: scientific, engineering, business and industrial data processing, consulting analysis, and programming / S 8000 / E 1957 / *C 65
- Control Technology, Inc., 1232 Belmont Ave., Long Beach 4, Calif. / EQPM: no computing devices, but in late 1964 expect to have computing facility including analog, digital and hybrid; use facilities such as CEIR, CUC, EAI, etc. / PROB: hybrid, digital and analog computation. Mathematical model building, simulation. Monte Carlo methods, statistical analysis, structural analysis, all scientific and engineering problems, courses in hybrid, digital and analog computation / S 15 / E 1960 / *C 64
- The Data Center Corp., 3002 Midvale Ave., Los Angeles 34, Calif. / EQPM: - / PROB: business applications programming, systems design, data processing services. Also equipment selection, site engineering, operations research / S 10 / E 1960 / *C 65
- Data Computing Corporation, 229 Baldwin Rd., Hempstead, N.Y. / EQPM: IBM 1401's and peripheral equipment, tape and punch card applications / PROB: business, accounting, engineering and statistical projects / S 80 / E 1954 / *C 65
- Data Processing Corp. of America, 375 Park Ave., New York 22, N.Y. / EQPM: - / PROB: management and operation of data processing systems service centers, including programming and electronic computer services / S ? / E 1958 / *C 65
- DELCO, Inc., 360 Western Federal Bldg., Denver, Colo. 80202 / EQPM: IBM 1460 w/Mod 3 printer, (4) 729 Tape, 1412, 1011, electric information 909 tape input device, 650, 407, etc. / PROB: engineering and accounting data processing / S 35 / E 1953 / *C 65
- Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / EQPM: Dian 120 computers, 444 summing and integrating amplifiers, 70 multipliers, associated function-generating equipment, recorders and plotting boards / PROB: ordinary and partial differential equations; heat transfer, aircraft guidance and control, nuclear reactor kinetics, process control, simulator design / S 12 / E 1955 / *C 65
- EAI Computation Center at Los Angeles, Inc., 1500 E. Imperial Highway, El Segundo, Calif. / EQPM: one EAI Hydac 2400 hybrid digital/analog, including 231R-V (204 amplifiers); DOS-350; DDP-24; six EAI 231R's, analog; three EAI TR-48's, analog; two EAI TR-10's, analog. Total of 1008 amplifiers, and associated non-linear equipment. High speed repetitive operation available on all computers / PROB: radiation effects on electronic circuits, parameter optimization, partial differential equations, digital devices, and pneumatic and hydraulic control systems; aircraft, missile, and aerospace applications; microwave electronics, petroleum-chemical process control; nuclear reactor simulations; physiological medical applications; water conservation studies; statistical correlation studies; iterative and hybrid applications / S 19 / E 1956 / *C 64
- EDP Management, Inc., P.O. Box 393, New York, N.Y. 10008 / EQPM: Control Data 3000 series systems / PROB: Information systems management and performance control. Areas of application are: real time and communications, command and control, management controls, accounting, subscription fulfillment, etc. / S 2 / E 1965 / *C 65
- N. V. Electrologica, Stadhoudersplantsoen 214, Hague, Netherlands / EQPM: Electrologica X1; 2 basic units, memory 20480 words; 2 punched tape readers (25 and 1000 symbols per sec.); 3 tape punches (25 and 300 symbols per sec.); 2 punched card read and punch units (7200 cards per feed per hour); 2 card readers (42,000 cards per hour); 1 line printer (10 lines per sec.); 6 magnetic tape units (30,000 symbols per sec.) / PROB: programming, system analyses / S 66 / E 1958 / *C 64
- Electronic Associates, Inc., Research & Computation Div., P.O. Box 582, Princeton, N.J. / EQPM: four model 231-R PACE 120 amplifier analog computers, one HYDAC 2400 hybrid analog digital computer, ADIOS (Automatic Digital Input-Output System), one model DDP-24 digital computer, five TR-48 and two TR-20 desk-top analog computers, one model 3440 digital dataplotter, numerous 8 channel rectilinear and 11 x 17 x-y recorders, also 8 channel repetitive operation oscilloscope display / PROB: aerospace simulation & weapons system analysis, electromagnetic propagation studies, signal processing, pattern recognition and other scientific applications; industrial process simulation & analysis; development of mathematical models for all types of scientific simulation, including bio-medical, economic, photogrammetric / S 45 / E 1954 / *C 65
- Electronic Associates, Inc., Research & Computation Div., Integrated Controls Dept., 4151 Middlefield Rd., Palo Alto, Calif. / EQPM: two model 231-R, 120 amplifier PACE analog computers, two TR-48, one TR-10 desk-top analog computers, one HYDAC 2400 hybrid analog/digital computer, one model DDP-24 digital computer, numerous 8 channel rectilinear recorders, x-y 11" x 17" recorders, 8 channel repetitive operation oscilloscope display / PROB: special capabilities in nuclear reactor simulation, reactor control studies, simulation of nuclear propulsion systems, analysis of reactor thermal systems. Also, industrial process analysis and simulation capabilities for design of process and control systems / S 20 / E 1963 / *C64
- Electronic Data Service, Inc., 802 Philadelphia Pike, Wilmington, Del. / Branch office, 4708 Kirkwood Hwy, Newark, Del. / EQPM: IBM 1401 and 7070 systems; 80 column punched card tabulator / PROB: EDP educational program; punched card tabulating service; EDP system for lease / S 40 / E 1958 / *C 64
- Electronic Development Corp., 423 W. Broadway, Boston, Mass. 02127 / EQPM: A/D converters, precision voltage reference sources, millivolts, programmable voltage measurement systems, shaft encoder translators, data logging systems, DC/DC converters (miniaturized) / PROB: - / S 20 / E 1958 / *C 65
- Elliott-Automation Ltd., Computing Services Div., Elstree Way, Borehamwood, Herts, England / EQPM: 4 National-Elliott 803's, 1 Elliott 503 / PROB: scientific, mathematical, statistical and engineering; market survey analysis; quantity surveying; structural analysis and design; cheap do-it-yourself "Computer Workshop" service bureaus at Borehamwood (Herts), Southwark (London S.E.1.) and Greenford (Middlesex).
- Frequent 2/3 day programming and operating courses are run for "Computer Workshop" users / S 80 / E 1954 / *C 65
- Fedder Data Centers, Inc., 307 S. Sharp St., Baltimore 1, Md. / EQPM: IBM 1401, optical scanner, hi-speed addresser / PROB: applied programs in banking, retailing, publishing. Available for consulting / S 110 / E 1929 / *C 64
- Ferranti Electronics, a Div. of Ferranti-Packard Electric Ltd., 16 Industry St., Toronto 15, Canada / EQPM: Ferranti Limited Pegasus computer, FP Good G.P. comp.; large program library available for these medium-size, digital, general purpose computers / PROB: applications in industry, science and engineering / S 400 / E 1913 / *C 64
- Dr. Ivan Flores, Consultant, 931 President St., Brooklyn 15, N.Y. / EQPM: - / PROB: Logic design of general purpose computers; special purpose computer design feasibility and proposal; man-machine interface; math. models; character recognition; educational seminars / S 3 / E 1960 / *C 65
- Franklin Institute, 20th and Parkway, Philadelphia, Pa. / EQPM: Honeywell 1400, 6 tapes, CREP, 900 line/min. HSP on line / PROB: business data processing, scientific and engineering computations / S 30 / E 1957 / *C 65
- General Kinetics, Inc., 2611 Shrlinger Rd., Arlington 6, Va. / EQPM: computer tape cleaning, testing, erasing and winding / PROB: computer tape cleaning, testing, erasing, winding, rehabilitation and recertification services / S ? / E 1954 / *C 65
- GPS Instrument Co., Inc., 188 Needham St., Newton, Mass. 02164 / EQPM: complete line of analog computers featuring high performance and great flexibility. Computers tailored to meet individual needs of many users. GPS Computer Series 10000 and 200T feature compressed time, real time and hybrid capabilities / PROB: statistical and iterative techniques, including automatic control, basic physical phenomena, evaluation of data, expressible by differential and algebraic equations. Specialize in wide bandwidth operation for high dynamic accuracy in compressed timescale computing with ability to read out in real time / S 45 / E 1955 / *C 65
- Honeywell, Inc., Special Systems Div., Queen & So. Bailey Sts., Pa. / EQPM: EAI 231R analog computer, Honeywell 290 digital computer, Honeywell 610 digital computer, Honeywell 20 digital control system and analog-to-digital and digital-to-analog converters / PROB: studies on industrial processes, dynamic behavior of computer-controlled processes, simulation of mathematical models for controlling industrial processes, testing of real-time control algorithms / S 350 / E 1962 / *C 65
- The I.D.R. Co. (Industrial Data Reduction), 4740 Spruce St., Philadelphia 39, Pa. / EQPM: - / PROB: specialize in publishing industry services / S 30 / E 1961 / *C 64
- Information Processing Systems, Inc., 200 W. 57 St., New York, N.Y. 10019 / EQPM: - / PROB: broker of used computer equipment; data processing consultant / S ? / E 1963 / *C 65
- Institute for Scientific Information, 325 Chestnut St., Philadelphia, Pa. 19106 / EQPM: (24) IBM 026 K.P., (4) IBM 056 Ver., (1) IBM 083 Sort., (2) IBM 557 Inter., (1) DURA conv. (card to tape); (1) DURA MACH 10 (paper tape to typewriter) / PROB: selective dissemination of scientific information, processing scientific journals, abstracting chemical literature, citation indexing of scientific literature / S 125 / E 1958 / *C 65
- Instrument Society of America, 530 Wm. Penn Place, Pittsburgh, Pa. 15219 / EQPM: - / PROB: science and technology of instrumentation, measurement information acquisition, data processing and display, and automatic control systems. Publish ISA Journal, ISA Transactions, Russian translations, ISA Transducer Compendium, and Standards and Practices for Instrumentation / S 38 / E 1946 / *C 65
- I/S Datacentralen of 1959, Ved Stadsgraven 15, Copenhagen S, Denmark / EQPM: two IBM 1401-4K-3/7330, 1/1011, one IBM 7074-10K/729-4; Input: 80 cols. punched cards - paper tape - magnetic tape; Output: magnetic tape-1401 printing or punching; 7074 up to 10 tapes, floating decimal; 1401 up to 2 tapes / PROB: management consultant services; problem definition; planning; programming; test, etc.; machine operating; quality control; available to all public institutions and to customers outside the state, municipalities and the parish organizations for all sorts of computations / S 150 / E 1959 / *C 65
- KEYDATA Corp., 575 Technology Sq., Cambridge, Mass. 02139 / EQPM: DEC PDP-6 with 48K core memory, 33M-character disc, 6M-character drum, two magnetic tape drives, high-speed line printer, communication interfaces for up to 250 remote consoles / PROB: on-line, real-time data processing services for invoicing, inventory control and other business and accounting procedures; scientific computation, including FORTRAN preprocessing / S 35 / E 1961 / *C 65
- Ling-Temco-Vought, Inc., Box 2100, Arlington, Texas 76011 / EQPM: IBM 7090 digital computer, IBM 7010, IBM 1440, four (4) IBM 1401's, two (2) IBM 1460's; 1000 amplifier analog facility with auxiliary equipment including hybrid tie-in to four-

Computing Services

- (4) ASI digital computers / PROB: aerodynamics, controls, numerical control for machine tools, electrical load flow, flutter analysis, weight accounting, heat transfer, navigational computations, celestial mechanics, manufacturing control, personnel time accounting, and other scientific and accounting applications / S 270 / E 1949 / *C 64
- Lipps, Inc., 1630 Euclid St., Santa Monica, Calif. / EQPM: complete line of instrumentation type magnetic record heads for all types of instrumentation, computing and data processing applications / PROB: specialize in highly technical custom applications / S 40 / E 1946 / *C 65
- Lutter, Maremont and Co., Inc., 35 E. Wacker Dr., Chicago 1, Ill. / EQPM: - / PROB: operations research, numerical analysis, systems design, programming, contractual processing, computer time, used computer equipment / S 25 / E 1962 / *C 64
- Machine Computing Services, 138 1/2 Second E., Salt Lake City 11, Utah / EQPM: - / PROB: breaker of idle computer and punch card equipment time / S 8 / E 1960 / *C 65
- Mathematischer Beratungsdienst, Kleppingstr. 26, Dortmund, Germany / EQPM: electronic computer ELECTROLOGICA XI; 8192 core store memory, 4096 words fixed store; 2 punched tape readers (1500 ch/sec); 1 high speed punched tape reader (1000 ch/sec); punched card read and punch unit; 1 high speed paper tape punch (300 ch/sec; CREED); 1 paper tape punch (25 ch/sec); one typewriter / PROB: civil engineering, bridge building; highway engineering, chemical technology; operations research, data processing with punched tape and punched card; engineering, ship building; other mathematical and physical problems / S 40 / E 1957 / *C 64
- McDonnell Automation Center, Box 516, St. Louis, Mo. 63166; Subsidiaries: DELCOS, Inc., 360 Western Federal Building, Denver, Colo. 80202; MACTEX, McDonnell Automation Center of Texas, Inc., Suite 400/500 Jefferson Bldg., Houston, Tex. 77002; McDonnell Automation Center, Inc., 200 S. 7th St., Columbia, Mo. 65201 / EQPM: complete automation service center / PROB: consulting, systems design, programming, scientific computing, data processing / S 750 / E 1961 / *C 65
- Midwest Research Institute, 425 Volker Blvd., Kansas City, Mo. 64110 / EQPM: IBM 1620, 1311, 1443 / PROB: business and scientific; mathematical analysis and computation; contract research; economics research; operations research and analysis; systems engineering; information retrieval; digital and analog simulation / S 350 / E 1944 / *C 64
- Multnomah Data Processing Center, 430 N.W. 10th Ave., Portland, Ore. 97209 / EQPM: - / PROB: commercial data processing / S 65 / E 1958 / *C 64
- National Bureau of Standards, Connecticut & Van Ness Sts., Washington 25, D.C. / EQPM: - / PROB: general purpose data processing service. Numerical analysis and programming research / S 95 / E 1947 / *C 65
- National Computer Analysts, Inc., U.S. Hwy. No. 1 at Lynwood Drive, Princeton, N.J. 08540 / EQPM: - / PROB: EDP and information handling systems analysis; design and implementations; programming; consulting; software development; data processing services; banking and automation; automatic typesetting / S 35 / E 1961 / *C 65
- National Physical Laboratory, Mathematics Div., Teddington, Middlesex, England / EQPM: DECUC and ACE and KDF 9 / PROB: numerical analysis, applied mathematics, theoretical physics, data processing / S 60 / E 1945 / *C 65
- Operations Research of Tulsa, P.O. Box 800, Tulsa, Okla. 74101 / EQPM: - / PROB: economic research, inventory systems / S ? / E ? / *C 64
- Pacific Tabulating & Statistical Ltd., B202, 355 Burrard St., Marine Bldg., Vancouver 1, B.C., Canada / EQPM: Univac solid state 80, IBM 1401, Univac 1050, IBM unit record equipment / PROB: data processing services / S 20 / E 1952 / *C 65
- Philco Corp., a subsidiary of Ford Motor Co., Computer Div., Service Bureau, 3900 Welsh Rd., Willow Grove, Pa.; also Western Computing Center, 3875 Fabian Way, Palo Alto, Calif. / EQPM: Philco 2000, 1000, 3100 series all-transistor data processing systems; Basicpac FIELDATA computers / PROB: digital computing, engineering and development digital computers; research in computers / S 48 / E 1958 / *C 65
- Philco Corp., a subsidiary of Ford Motor Co., Information Systems Dept., 3900 Welsh Rd., Willow Grove, Pa. / EQPM: Philco 211 and 212, large-scale computer systems; Philco 1000 computer system / PROB: any scientific and business data processing application / S 20 / E 1958 / *C 65
- Production Systems, Inc., 144 Moody St., Waltham, Mass. 02154 / EQPM: GE 225 computer / PROB: business data processing, programming, systems installations / S 10 / E 1951 / *C 65
- Programming & Systems, Inc., 33 West 42 St., New York, N.Y. 10036 / EQPM: IBM 1401-8K, completely equipped (multiply-divide, column binary, all sense switches, etc.) 4-7330 tape drives; all EAM equipment; 11 KP machines, Verifier, Reproducer, 407 Accounting Machine, Collator, Sorter, Interpret / PROB: commercial sales analysis, inventory, all accounting work; invoices, accounts receivable, etc., statistical analysis / S 15 / E 1962 / *C 64
- Rand Corporation, Santa Monica, Calif. / EQPM: Johnniac, IBM 7090 / PROB: linear programming, modelling, scientific computing generally / S 1100 (100 in Computer Sciences Dept.) / E 1947 / *C 64
- Recording & Statistical Co., 176 Broadway, New York, N.Y. 10038; Computerized Data Processing Service Bureau in New York (including branch office in Levittown, L.I.), Boston, Chicago, San Francisco, Toronto and Montreal / EQPM: - / PROB: complete variety of commercial services, specializing in packaged and customized systems for the fire and casualty insurance field / S 300 / E 1911 / *C 65
- Reeves Instrument Co., Roosevelt Field, Garden City, N.Y. / - / - / S 1600 / E 1946 / *C 64
- Rockford Research Institute Inc., 140 1/2 Mt. Auburn St., Cambridge, Mass. 02138 / EQPM: - / PROB: information and retrieval research and artificial intelligence research / S 5 / E 1961 / *C 65
- The Simulatics Corp., 16 E. 41st St., New York 17, N.Y. / EQPM: - / PROB: applications of computer techniques to marketing, economic and behavioral problems including simulation, gaming and information retrieval / S 20 / E 1959 / *C 65
- Southwestern Computing Service, Inc., 1631 S. Boston, Tulsa 19, Okla. / EQPM: Alvac III, Burroughs B260, IBM unit record equipment / PROB: computing service, solving data reduction, engineering and business problems; programming / S 12 / E 1953 / *C 65
- Space Services Division, Div. of Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / EQPM: Support Programs for Aerospace Components and Equipment. Logistics, technical writing, provisioning parts breakdown, illustrated parts breakdown, spares documentation; provisioning conferences counselling / PROB: professional counseling for business, science and government in the economic evaluation and application of computer systems for management information and control / Intimate knowledge of both logistic support specifications (government or manufacturer) and data processing techniques / S 5000 / E 1933 / *C 64
- Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / EQPM: IBM 1400 card and tape systems plus peripheral equipment and conventional punch card tabulating and data processing machines / PROB: administrative and scientific management, engineering and general data processing, programming, systems, analysis, consultation / S 5000 / E 1933 / *C 64
- System Data Processing Co., 908 15th St., Sacramento 14, Calif. / EQPM: B-260 computer; IBM 407-402 tabulators; punched paper tape and Kimball punched ticket data processing / PROB: data processing, tabulating, programming, key punching / S 22 / E 1958 / *C 65
- System Development Corp., 2500 Colorado Ave., Santa Monica, Calif. / EQPM: IBM 7094; Philco S-2000; CDC 1604; AN/FSQ-7 (SAGE Military Computer); AN/FSQ-32; AN/FSQ-8; Philco 2400; CDC 160A; Burroughs D-825; IBM 1401 / PROB: specialize in the design and development of command, control, and information management systems for military, governmental, scientific, and educational applications / S 4000 / E 1957 / *C 65
- Tabulating and Business Services Inc., 136 W. 52nd St., New York 19, N.Y. / EQPM: 1460 tape system; 407's and other EAM equipment; 50 024's and 056's / PROB: sales analysis, market research studies, statistical analysis, employees census, and variety of complex data processing problems including programming / S 110 / E 1956 / *C 64
- Task Force, Division of Statistical Tabulating Corp., 104 South Michigan Ave., Chicago 3, Ill. / EQPM: organizational problem-solving with one or more temporary office personnel in various skill families (data processing and computer operators, programmers, and supervisors; executive and technical; typing and stenographic; bookkeeping and office machines; (clerical) for conversions, peak loads, unusual situations, second shift operations, etc. / PROB: administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation / S 5000 / E 1933 / *C 64
- Tata Institute of Fundamental Research, Colaba, Bombay 5, India / EQPM: Control Data Corp. 3600-160A system with 607 magnetic tapes (8); 606 magnetic tapes (2); 501 line printer (1); 405 card reader (1); IBM 523 card punch (1); 166 line printer (1); 3691 paper tape reader and punch (1) / PROB: scientific and engineering computations; programming languages design and development; research in picture processing and information retrieval for library work / S 60 / E 1955 / *C 65
- Technical Advisors, Inc., Municipal Court Bldg., Ann Arbor, Mich., 48108 / EQPM: digital computer service bureau using RPC-4000 / PROB: civil engineering and land surveying / S 13 / E 1954 / *C 65
- Technical Operations, Inc., a div. of Technical Operations, Inc., South Ave., Burlington, Mass. / EQPM: systems analysts, programming system language specialists, system requirement analysts, scientific and information processing programmers, system development management / PROB: design, development and integration of information management systems; simulation of operational systems; design of special purpose compilers / S 750 / E 1951 / *C 65
- Telecomputing Services, Inc., 8155 Van Nuys Blvd., Suite 250, Panorama City, Calif. 91402 / EQPM: three IBM 7094's, one IBM 7044, five IBM 1401's, two IBM 1620's, one GE 225, two Honeywell 400's, two Honeywell 1800's, two microwave high-speed data links, seven Electronic Associates 231-R analog computers, five automatic telemetry data reduction systems, plus a wide variety of scientific raw data optical data measurement systems / PROB: post-flight and real-time reduction; theoretical analyses involving rocket propulsion studies and space flight; SATURN engineering problems; bio-science problems; and business data processing problems such as inventory control, payroll, labor distribution, production scheduling, etc. / S 420 / E 1947 / *C 65
- Univac Data Processing Centers, Univac Div., Sperry Rand Corp., 1290 Ave. of Americas, New York 19 N.Y., and 31 Univac Service Centers in large cities / EQPM: whole range of UNIVAC equipment; punched cards, Univac 60, Univac 120, Univac File Computer, solid state 80/90 with tapes, Univac I, II, III, Univac 1105, 1107 / PROB: all punched card data processing applications; all paper tape and magnetic tape data processing applications; all scientific applications / S ? / E ? / *C 64
- Universal Data Processing Corp., 8404 Beverly Blvd., Los Angeles, Calif. 90048 / EQPM: IBM Computer, key punching, programming / PROB: design data processing systems and process the resulting reports for clients too small to install their own equipment. Overload or peak period work, including key punching, for other installations / S 200 / E 1957 / *C 65
- URS Corp., Corporate Hq., 1811 Trousdale Dr., Burlingame, Calif. / EQPM: IBM 1440/1311 digital computer; 047 paper tape to card punch; 026 key-punch; 056 verifier; 082, 085 sorters; 548; 514 reproducing punch; (IBM 360/30 on order) / PROB: accounts receivable, credit union accounting, retail accounting, job analysis, general ledger accounting, statistical reporting, payroll, engineering calculations, inventory control / S 124 (70 software specialists) / E 1951 / *C 65
- U. S. Army, Computing Laboratory, Ballistic Research Laboratories, Aberdeen Proving Ground, Md. / EQPM: large-scale, high-speed digital computers; ORDVAC (Ordnance Variable Automatic Computer), BRLESC (BRL Electronic Scientific Computer), IBM 1401 for off-line processing, and data reduction equipment / PROB: U.S. Army problems in ballistics, scientific computations / S 100 / E 1940 / *C 65
- U. S. Navy, David Taylor Model Basin, Applied Mathematics Laboratory, Washington, D.C. 20007 / EQPM: LARC with 3,000,000 word drum storage and 30,000 word core storage, IBM 7090 with 32,000 word core storage, SC-4020 high-speed microfilm printer plotter, IBM 1401 with 4000 word storage, EECO Computer Data Format Translator / PROB: principal computing facility for Navy's Bureau of Ships, with problems ranging from mathematical types arising in structural mechanics, hydromechanics, and nuclear reactor design, to logistics and inventory control / S ? / E 1952 / *C 64
- U. S. Naval Weapons Laboratory, Computation and Analysis Lab., Dahlgren, Va. / EQPM: NORC and IBM 7030 (STRETCH), Universal Data Transcriber, auxiliary equipment / PROB: mathematical analysis and research, programming, engineering, computing and data processing services only for government and government contractors / S 350 / E 1942 / *C 64
- U. S. Navy, Aviation Supply Office, Data Processing Div., 700 Robbins Ave., Philadelphia 11, Pa. / EQPM: two IBM 1410's, five IBM 1401's, one 1405 Autodin communications network and EAM equipment. Now converting to Univac 490 real time system with Burroughs 283 peripheral systems / PROB: inventory control / S 250 / E 1941 / *C 65
- Westgate Laboratory, Inc., P. O. Box 63, Yellow Springs, Ohio / EQPM: NCR 2300 bookkeeping machine, miscellaneous office calculating machines / PROB: use of computer logic in circuit designs; research and development work in electronics, electro-mechanical and optical equipments. Manufacture X-Y plotters / S 55 / E 1965 / *C 65
- Whittaker Corp. (formerly Telecomputing Corp.) 9229 Sunset Blvd., Los Angeles 69, Calif. 90069 / EQPM: data analysis and processing equipment, special purpose computers / PROB: data reduction analysis and counselling / S 2500 / E 1942 / *C 64
- Wolf Research & Development Corp., P.O. Box 36, W. Concord, Mass. / EQPM: Whirlwind I computer system with extensive display facilities; Bendix G15D computer system with magnetic tape, paper tape and punched card equipment and special curve tracing input device / PROB: scientific, engineering, management, business, industrial, military and space exploration applications. Service routines. Data processing / S 400 / E 1954 / *C 65

- END -



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Following is a roster of services which provide consulting in the computer field. Many of them also provide computing, and if so, additional description may be found in the "Survey of Computing Services". See also in the "Roster of Products and Services", the headings "C30, Consulting Services", and "P12A, Programming Services".

The survey form asked for:

1. Brief description of the facilities, personnel and capabilities which you have for consulting assistance in the area of computers and data processors? _____
2. Brief description of the types of problems that you specialize in? _____
3. Number of employees? _____
4. Year established? _____
5. Any remarks? _____

Each full entry from an organization that replied to the survey is in the form of: Name and address of consulting service / Facilities / Problems / Size and year of establishment. Other entries should be self-explanatory.

The abbreviations used include the following:

- S - Size (number of employees)
- E - Established (year of establishment)
- *C - "Checked" by the organization; "65" means "in 1965", etc.

All additions, corrections, and comments will be welcome.

Abacus Information Management Co., P. O. Box 399, New York, N. Y. 10008 / Technical and managerial guidance to administrative officials responsible for a wide variety of civilian and military systems / Appraisal, audit, professional criticism, review, crystallization of procedures and standards, financial valuation / S 2 / E 1962 / *C 65

Actuarial Computing Service Inc., 1389 Peachtree, Atlanta 9, Ga. / Four employees with 25 years aggregate experience in insurance applications / S 6 / E 1956 / *C 64

Charles W. Adams Associates, Inc., 575 Technology Square, Cambridge, Mass. 02139 / Programming and consulting services in all areas of computer usage / Man-machine communication, on-line process control, data communications, data reduction, computer software, large-scale computation and simulation, information retrieval, business data processing, analysis of system requirements, evaluation of systems, equipment evaluation and selection / S 60 / E 1959 / *C 65

Aeronutronic Div., Philco Corp., Ford Rd., Newport Beach, Calif. / Visual output displays utilizing high speed photographic techniques for large screen as well as console projections. Related input devices provide rapid and accurate composing of alphanumeric and graphical input messages / Data input, organization, processing and display of complex situations / S 3000 / E 1956 / *C 64

Aries Corporation, 4901 W. 77 St., Minneapolis, Minn., and Westgate Research Park, McLean, Va. / Management and technical services to the EDP user and manufacturer / Systems analysis, program management, design and implementation of commercial and scientific real time on-line systems. Market analysis and product planning for EDP manufacturers / S 55 / E 1962 / *C 65

AUERBACH Corporation, 1634 Arch St., Philadelphia 3, Pa. / Senior scientists, physicists, mathematicians, engineers, psychologists, market-research specialists. Capabilities in: pure

and applied mathematics; computer-system design, analysis, evaluation, automatic programming; analog and digital on-line and off-line systems; equipment design and development; logic and solid-state circuit design; product and market planning; programmed teaching / Systems engineering; specification, design, implementation and utilization of complex information-processing system, both on-line and off-line, real-time, multicomputer configurations; design, preparation, and integration of real-time programs for large digital communication, control and business systems; mathematical analysis. Business information systems: feasibility studies; system evaluation, design, implementation. Computer-system analysis and application: hardware and software analysis, design, programming, training; system evaluation, installation, organization, and documentation. Technical and scientific information systems: system evaluation, design, installation and operation. Market programs: product definition, comparisons, and use; market surveys, forecast, requirements, and competitive analyses; corporate posture, forecasts, and strategy. Manufacturing processes and services: plant operation, control, economics; facilities management; scheduling; numerical control; quality control; RGD management; traffic and transportation control. Programmed teaching: evaluation and development of training programs, techniques, and hardware / S 93 / E 1957 / *C 64

Automation Management, Inc., 25 Brigham St., Westboro, Mass. / Office and factory facilities and engineering personnel available to carry a project from the original idea through to installation and training of personnel in integrated office systems / Management control problems of all types involving the use of industrial engineering, operations research, as well as data processing and computer skills / S 3 / E 1955 / *C 65

Ernest E. Blanche & Associates, Inc., 10335 Kensington Parkway, Kensington, Md. / Design of questionnaires, surveys and studies; data processing and analysis of results; design of systems and installation / Opinion surveys, consumer surveys, audience reaction surveys, operations research, department store operations / S 135 / E 1955 / *C 65

Bonner & Moore Associates, Inc., 500 Jefferson Bldg., Houston 2, Tex. / Staff divided into: operations research including management consultation; programming systems; and dynamic analysis of processes and computer process control. Senior professional people with experience in: econometrics, mathematics, control theory, chemical, mechanical, nuclear and industrial engineering, and digital/analog computer technology / Simulation of physical and corporate systems; economic optimization techniques and applications; mathematical methods research; design or data processing systems; translators compilers, and problem-oriented computer languages; and development of process control models and the design of computer control installations. Proprietary linear programming and general data reduction program systems for several machines / S 17 / E 1956 / *C 65

Booz, Allen Applied Research, Inc., 135 S. LaSalle St., Chicago, Ill. 60703 / Scientific and technical services. Computer and hardware systems design, installation management, computer feasibility, applications, systems analysis, software design, data processing, and scientific computation / S ? / E ? / *C 64

Booz, Allen & Hamilton, Inc., 135 S. LaSalle St., Chicago, Ill. 60603. Also offices in Washington, D. C., New York, Detroit, Cleveland, Los Angeles, San Francisco / Management consultants, technical and management services in electronic and automatic data processing for integrated management information and control systems for indus-

try, commerce, government, and institutions; feasibility studies, systems design, equipment selection, implementation, systems conversion, EDP audit and review / S 400 / E 1914 / *C 65

Brandon Applied Systems, Inc., 30 E. 42nd St., New York, N. Y. 10017 / Extensive experience in all technical data processing areas from feasibility analysis, through implementation to management audits. Dick H. Brandon (C&A Contributing Editor) is author of Management Standards for Data Processing / Technical consulting services in systems, programming, standards development, review, audit and personnel training. The company provides extensive educational services, with a series of successful public courses sponsored by "Computers and Automation" magazine / S 15 / E 1964 / *C 65

C-E-I-R, Inc., One Farragut Sq., S., Washington, D. C. 20006 / Information processing; mathematical-statistical services; market analysis; management science; economics; automation training; engineering services; data research / Management information and control systems; business data processing; information storage and retrieval; control theory; systems analysis; computer programming and operations; scientific computing; data transmission systems; remote computer operations; mathematics; mathematical statistics; actuarial science; computations; market research; opinion research; audience measurement; sampling; sales forecasting; mediometrics; operations research; mathematical models; mathematical programming; simulations; war and business gaming; weapons system analysis; reliability; quality control; econometrics; statistical analysis; economic and statistical studies; economic and industrial surveys; management science and operations research seminars; computer workshops; in-plant education programs; technical training courses; engineering services; data research / S 1000 / E 1954 / *C 65

Chrono-Log Corp., 2583 W. Chester Pike, Broomall, Pa. / Design and manufacture real-time programmable clock systems for digital computers. Time code generators and readers. Digital clocks. Process control applications and systems / Real-time computer control for both industrial and military applications / S 10 / E 1956 / *C 65

A. Ben Clymer, 2145 Tremont Rd., Columbus, Ohio 43221 / Consulting analytical engineer / Services in using mathematics and computers to solve engineering and scientific problems / S ? / E ? / *C 64

Compumatix, Inc. 1430 Olive St., St. Louis, Mo. 63103 / Consultants on all computers including systems and procedures, data processing on the LGP-30, IBM 702, IBM 705, IBM 7090, IBM 7072, IBM 7094, IBM 1401 / S 75 / E 1956 / *C 64

Computer Advisors to Management, Division of Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. Also offices in New York and Los Angeles / Complete staff of consultants, systems engineers and programmers with a broad range of specialties for problem solving in industry, business, science and government / Professional counselling in the economic evaluation and application of data processing and computer systems; services ranging from feasibility studies to systems design, equipment selection, personnel indoctrination, programming and client servicing / S 200 / E 1961 / *C 64

Computer Consultants Ltd., Colman House, Southbury Rd., Enfield, Middlesex, England / Consulting services. Associated companies: Computer Assembling Ltd., Computer Colleges Ltd., Computer Consultants (International) Ltd., Computer Maintenance Ltd., Computer Research Ltd., Computer Spares Ltd., Computer Staff Selection Ltd., Computer Time Hire Ltd. / S 20 / E 1957 / *C 65

Computer Dynamics Corp., Subsidiary of the Telegester Corp., 1104 Spring St., Silver Spring, Md. / Consulting services and programming services / S ? / E ? / *C 64

Consulting Services

- Computer Personnel Consultants, Inc., 135 S. LaSalle St., Chicago, Ill. 60603 / Recruitment of and searches for computer and operations research personnel; personnel appraisal; and personnel and department organization consulting / S 5 / E 1964 / *C 65
- Computer Sciences Corp., 650 N. Sepulveda Blvd., El Segundo, Calif. 90245 (General Offices); 3773 Richmond Ave., Houston 27, Tex. (Houston Div.); 8121 Georgia Ave., Silver Spring, Md. (Washington, D. C. Office); 960 N. San Antonio Rd., Los Altos, Calif. (San Francisco Office); 112 Chatsworth Court, Pembroke Rd., London, W.8, England (London Office); 660 Madison Ave., New York 21, N. Y. / Complete computing services: small to large-scale computers available. Data processing (both commercial and scientific). Consulting: analysis, programming, training, machine processing, feasibility studies, systems programming; 1107 computer and associated equipment in Los Angeles / S 429 / E 1959 / *C 65
- Control Data Corp., 8100 34th Ave., S., Minneapolis, Minn. 55440 / Data Centers Div. / System Sciences Div., Government Systems Div., Control Systems Div., Sales Support Personnel / Consulting with customer in all areas of standard data processing systems or special systems studies relative to applications in science, industry and government / S 8500 / E 1957 / *C 65
- Control Technology, Inc., 1232 Belmont Ave., Long Beach 4, Calif. / Now using other facilities; in late 1964 expect to have own / Hybrid computation, digital and analog computation; mathematical model building, simulation, Monte Carlo methods, statistical analysis and all scientific and engineering problems; training of programming and operating personnel for analog, digital and hybrid computers; control engineering for industry and government; software and hardware design for data acquisition and control systems / S 15 / E 1960 / *C 64
- The Data Corp., 4050 Wilshire Blvd., Los Angeles, Calif. 90005 / Consultants, methods analysts, systems analysts, programmers for major computer manufacturers. In house IBM 1460/360, SDS 910, Philco and REI Optical scanners. Representation in principal cities / Data problem solving for clients. Consulting, systems, programming and processing / S 150 / E 1962 / *C 65
- Dataman Associates, 120 Boylston St., Boston 16, Mass. / Electronic data processing personnel consulting exclusively / S 6 / E 1959 / *C 65
- Data Processing, Inc., 1334 Main St., Waltham, Mass. 02154 / Analytical, programming, and general consulting services for scientific and advanced business digital computer applications. Special emphasis on high standards of programming quality, and on logical programming / S 12 / E 1957 / *C 64
- Data Processing Consultants, Inc., 375 Park Ave., New York, N. Y. 10022 / Full range consulting services in data processing systems / Specialists in inventory control / S 7 / E 1961 / *C 65
- Data Systems Analysts, Inc., 5900 Westfield Ave., Pennsauken, N. J. / Computer system definition, proposal development, and programming services / These services are mainly for real time and communications switching systems / S 12 / E 1963 / *C 65
- Dian Laboratories, Inc., 611 Broadway, New York 12, N. Y. / Programming and application of analog computer problems, and design of special purpose analog simulators and trainers / Aerospace and submarine dynamics and control, heat flow, chemical and petroleum kinetics, partial differential equations, noise analysis / S 10 / E 1955 / *C 65
- Arnold I. Dumey, 29 Barberry Lane, Roslyn Heights, N. Y. / Consultant on problems of handling large amounts of data by electromechanical or electronic means / Design and application of computers; circulation problems of publishers of periodicals; statistical questions / S 7 / E 1954 / *C 65
- Dynatech Corporation, 17 Tudor St., Cambridge 39, Mass. / Access to: IBM 7090, 1401, 1620; Philco Transac; RCA 301; Philbrick Analog. Small staff of computer programmers, mostly mechanical and electrical engineering oriented / Mechanical, electrical, and chemical engineering with associated sciences / S 125 / E 1957 / *C 64
- EAI Computation Center at Los Angeles, Inc., 1500 E. Imperial Hwy., El Segundo, Calif. / Experienced engineers in complete analysis of complex engineering systems; programming hybrid, digital, and analog computers; formulation of appropriate computing systems; education and training in advanced techniques. Thirteen engineers / Control systems: digital, analog, hybrid, fluid power, nuclear, aerospace; math model development of biological systems; partial differential equations; parameter optimization; irradiation of electrical circuits; groundwater, water pumping systems, digital devices / S 19 / E 1956 / *C 64
- Ebasco Services Inc., 2 Rector St., New York, N. Y. / CIC G-20; 16K, buffered 6 magnetic tapes, card I/O, 1000 line per minute printer; 40 engineers and consultants active in computing. Programming services including problem formulation for computer application. Rental of computer facilities on service bureau basis / Evaluation and review of data processing systems. Feasibility determination for electronic, automated and other advanced forms of mechanized data processing systems. "Hardware" evaluation and selection. System design and installation. Data transmission and integrated processing procedures / S 1300 (N. Y. office) / E 1905 / *C 65
- Editorial Services for Management, P. O. Box 222, Concord, Mass. / Consulting services in business forms-data processing interface; editorial services in the field of data processing including writing, copy editing, layout and design, and production / S 3 / E 1962 / *C 64
- EDP Management, Inc., P. O. Box 393, New York, N. Y. 10008 / Personnel, demonstrated minimum of 6 (some 9) years of programming. Competence academically past the Master level. Past alternates of standards X3 subcommittees. Broad range of detailed knowledge in problem areas using: information retrieval; batch, continuous and random processing; real time controls; sort merge; equipment capabilities and configurations; software performance and standards / Input output; interrupt control; accounting; command and control; management information systems for administration, planning, operations, accounting and commitment fulfillment / S 2 / E 1965 / *C 65
- Electronic Associates, Inc., Research & Computation Div., P. O. Box 582, Princeton, N. J. / Systems Analysis services; consulting assistance in establishing simulation and computation programs for applications of analog and hybrid scientific computing / Aerospace simulation and weapons system analysis, electromagnetic propagation studies, signal processing, pattern recognition and other scientific applications; industrial process simulation and analysis; development of mathematical models for all types of scientific simulation, including bio-medical, economic, photogrammetric / S 45 / E 1954 / *C 65
- Electronic Associates, Inc., Research & Computation Div., Integrated Controls Dept., 4151 Middlefield Rd., Palo Alto, Calif. / Nuclear reactor simulation, reactor control studies, simulation of nuclear propulsion systems, analysis of reactor thermal systems; industrial process analysis; simulation of design of process and control systems / S 20 / E 1963 / *C 64
- Elliott 'Computer Workshop', Elliott Bros. (London), Ltd. (a member of the Elliott-Automation Group), 103-109 Southwark St., London S.E.1., England / Primarily providing the self-service 'computer workshop' scheme under which users are trained to program and operate a National-Elliott 803 computer which can then be hired from \$11 to \$22 an hour; Autocode and Algol systems available / Scientific, mathematical, statistical, and engineering problems; project planning; structural analysis / S 4 / E 1963 / *C 64
- Fischbach, McCoach & Associates, Inc., 30 E. 42nd St., New York 17, N. Y. / Management consultants specializing in applying scientific techniques to business-type problems. Complete service in appraisals and installation of electronic data processing and control systems for management / Business industry and government problems. Operations research; product appraisals; marketing analysis; organization studies; growth planning; site location studies / S 10 / E 1959 / *C 65
- Dr. Ivan Flores, 931 President St., Brooklyn 15, N. Y. / Three specialists in hardware and software to solve all phases of design and system problems / Logical design math models, system design, software interaction, preliminary programming, feasibility, proposals, seminars, brochure on request / S 4 / E 1960 / *C 65
- Gannett Fleming Corddry and Carpenter, Inc., 600 N. Second St., Harrisburg, Pa. / Consulting engineering firm with an IBM 1620 Model II, 1311 disk drives, 1443 printer and other EDP equipment / Work for own organization plus operating a service bureau / S 500 / E 1915 (computer section, 1955) / *C 65
- GPS Instrument Co., Inc., 188 Needham St., Newton, Mass. 02164 / Analysis and solution on analog/hybrid computers by experienced applications specialists in the fields of aerospace, biomedical, communications and process control / Recognized authorities in adaptive control, optimal control and statistical analysis / S 45 / E 1955 / *C 65
- Halbrecht Associates, Inc., 4641 Montgomery Ave., Bethesda, Md. 20014 / Management consultants, personnel and executive recruitment specialists / Electronic data processing, operations research mathematical sciences and scientific management / S 9 / E 1957 / *C 65
- Philip Hankins & Co., Inc., 800 Massachusetts Ave., Arlington, Mass. / Leases punched card equipment from IBM: rents computer time from available sources to fit requirements of individual projects; twelve members of the staff have a total of 65 years of computer programming experience / Programming and contract data processing services; experience includes both software and scientific programming; compilers, assemblers, monitors; Monte Carlo simulations, weapons systems simulations, data reduction, orbit and trajectory calculations. Projects involve full responsibility, from design through delivery of operating programs / S 11 / E 1959 / *C 64
- Hollander Associates, P. O. Box 2276, Fullerton, Calif. 92633 / Experienced engineers recognized for their contributions in the computer field supplemented by an alert and creative supporting staff / Evaluation and design of computer systems and their component units. Unique objective evaluation procedure clearly demonstrates relative advantages of alternate approaches. Recent contributions to design of spacecraft simulator, evaluation of gigacycle circuits, optimization of data retrieval and associative memories, planning of communication-switching systems and air-traffic beacons / S 9 / E 1961 / *C 65
- Honeywell, Inc., Special Systems Div., Queen & S. Bailey Sts., Pottstown, Pa. / Staff of experienced application engineers for analyzing process control problems in preparation for on-line computer control. Facilities include Honeywell 290, Honeywell 610 and Honeywell 20 digital computers and EAI 231R analog computer in a hybrid system / Basic oxygen furnaces, food processing and warehousing, textile finishing, pulp and paper manufacturing, control of utilities, petro-chemical manufacturing processes / S 350 / E 1958 / *C 65
- IDC, Ingenieria de Computadoras, Esmeralda 356, Buenos Aires, Argentina / Engineering scientific group with background in computer oriented problems / Engineering and management programs. Programming and system design of data processing centers. Integration of computers and operations research in engineering and management. Simulation. Educational services / S 8 / E 1963 / *C 65
- Information Dynamics Corp., 80 Main St., Reading, Mass. 01867 / Senior scientists, engineers, management specialists. Demonstrated competence in: pure and applied mathematics; automated typesetting; computer program design; EDP systems applications; indexing; information processing and distribution systems; library science; microfilm and applied photography; operations research; test and evaluation / All facets of hardware/software information systems engineering including state-of-the-art surveys; systems studies; systems studies; system design; mathematical modelling; computer programming; feasibility evaluations; operating procedure and equipment specification preparation; design, development and fabrication of custom equipment; site supervision during equipment installation; equipment and system testing; manpower requirements development; and personnel training / S 24 / E 1960 / *C 64
- Information Processing Systems, Inc., 200 W. 57 St., New York 19, N. Y. / Data processing consultant; broker of used computer equipment / S 7 / E 1963 / *C 65
- Institute for Scientific Information, Inc., 325 Chestnut St., Philadelphia, Pa. 19106 / Consulting research, publications, facsimile hardware, information engineering, publishers of Current Contents of Space, Electronic and Physical Sciences and Science Citation Index / S 75 / E 1955 / *C 64
- International Data Corp., 355 Walnut St., Newtonville, Mass. 02160 / Facilities for undertaking and executing market research studies in the computer and data processing field. Specialize in defining market potentials among users of computers and data processing equipment / Market studies and prospect identification in the computer and data processing field / S 10 / E 1964 / *C 65
- I. S. S., 14 rue de Milan, Paris 9, France / Consulting in data processing. Business systems design, specializing in design and implementation of real time systems for total management information. Personnel with various experience in telecommunications and data processing / Applications of data processing to management, simulation, application of mathematical methods in management economics. Analysis and programming service in manufacturing and business computing / S 27 / E 1963 / *C 65
- J. Kates and Associates, a division of KCS Limited, 20 Spadina Rd., Toronto 4, Ontario / Total of 65 professional personnel in KCS Limited, many with degrees in more than one discipline / Administrative systems, operations research, programming, mathematical and statistical services / S 7 / E 1954 / *C 64
- Ling-Temco-Vought, Inc., P. O. Box 2100, Arlington, Tex. 76011 / Consultation, analysis, and programming services in all areas of scientific, manufacturing, and business computing / Management systems / S 270 / E 1949 / *C 64
- Management Assistance Inc., 40 Exchange Place, New York 5, N. Y. / Data processing company specializing in the purchasing and leasing of used IBM business machines / Systems engineering and consulting services from Chicago and New York data centers. Develops and manufactures devices to expand the capability of IBM equipment, such as WROC 330 and WROC 452 / S 180 / E 1957 / *C 64
- Management Systems Corp., 1 Story St., Cambridge, Mass. 02138 / Management consulting / S 100 / E 1960 / *C 64
- F. L. Mannix & Co., Inc., Suite 1132, Park Square Bldg., Boston, Mass. / Personnel placement and management consultants / Executive and technical consultants in the field of data processing; consultants in wage and salary programs, organization and personnel administration / S 7 / E 1963 / *C 65
- Math, Beratungsdienst, Kleppingstr. 26, Dortmund, Germany / Consulting; all problems of electronic computers operations research, etc.; 12-15 consultants (mathematicians, economists, and management economists) / Application of mathematical methods in management economics, service center application of punched tape with small to medium-size firms / S 41 / E 1957 / *C 64

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- Mathematical Engineering Associates, Inc., 2929 Cedar Springs, Suite 203, Dallas, Tex. 75219 / Data processing consultants / S ? / E ? / *C 64
- H. B. Maynard & Co., Inc., 718 Wallace Ave., Pittsburgh, Pa. 15221 / Manufacturing area computer system consulting / Production, inventory, real time systems / S 175 / E 1934 / *C 65
- Mellonics Systems Development Div. of Litton Systems, Inc., 300 Sunnyvale Office Center, Sunnyvale, Calif. 94006 / Specialists in the various branches of engineering, mathematics, geophysics, operations analysis, data processing, programming, cost effectiveness and the varied disciplines of applied and theoretical mechanics / Systems engineering for data control complexes, real time data systems, computer center management; programmed instruction and other technical audiovisual services / S 55 / E 1961 / *C 65
- Mesa Scientific Corp., 2930 W. Imperial Highway, Inglewood, Calif. 90303 / 15,000 feet of offices in Inglewood, Los Angeles, Santa Ana, Calif.; Silver Spring, Md.; Huntsville, Ala. Many senior analysts, engineers, programmers / Design of all types of computer hardware and software. Computer applications. Check out and instrumentation systems. Command and control and communication systems / Have served over 200 clients / S 200 / E 1957 / *C 65
- National Bureau of Standards, Conn. and Van Ness Sts., Washington, D. C. / Staff consists of professional personnel with experience in problem formulation, programming, and coding; services limited to government agencies and government contractors / Problems arising in physical sciences, engineering, operations research, numerical experimentation and data processing, statistical analysis / S 20 / E 1947 / *C 64
- National Scientific Laboratories, Inc., 2010 Massachusetts Ave., N.W., Washington, D. C. 20036 / Research and development / Computer application engineering / S 300 / E 1948 / *C 65
- Simon M. Newman, Documentation Consultant, 1411 Hopkins St., N.W., Washington, D. C. 20036 / Independent consultant, with 18 years experience in construction and integration of scientific and technical hierarchical classifications; 6 years experience in the mechanization of such systems for information retrieval. 32 years of experience with Patent Office search problems, requiring detailed and exact technical searching / Design of information retrieval systems, and recommendations for implementation by use of hardware, when economically justified / S 1 / E 1961 / *C 65
- John K. Paden Co., 6918 Tokalon Drive, Dallas 14, Tex. / Electronic data processing management consulting / Inventory control and production control / S 3 / E 1960 / *C 65
- Philco Corp., 3900 Welsh Rd., Willow Grove, Pa. / Technical Representative Div. provides programmers, field engineers, instructors, technical manuals, consultants and computer services / All phases of computer related areas. Long range planning, operations research functions, activities in 57 countries and throughout U. S. / S 3400 / E 1942 / *C 65
- Programatics Inc., 11753 Wilshire Boulevard, Los Angeles, Calif. 90025 / Offices in West Los Angeles. Staff has extensive experience in machine evaluation and comparison, feasibility studies / Systems programming; machine evaluation and comparison; feasibility studies / S 10 / E 1963 / *C 65
- The Simulmatics Corp., 16 E. 41st St., New York 17, N. Y. / Applications of computer techniques to marketing economic, and behavioral problems including simulation, gaming, and information retrieval / S 20 / E 1950 / *C 64
- Space Services Division, Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / Support Programs for Aerospace Components and Equipment. Logistics; technical writing; provisioning parts breakdown; illustrated parts breakdown; spares documentation; provisioning conferences counseling / Administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation / S 5000 / E 1933 / *C 64
- Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / Fourteen data processing and computer centers, nationwide, containing IBM 1400-Series card and tape systems plus peripheral equipment and conventional punch card tabulating data processing machines / Administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation. Divisions: Data Processing; TASK FORCE; Computer Advisors to Management; Space Services / S 5000 / E 1933 / *C 64
- Systems Research Laboratories, Inc., 500 Woods Dr., Dayton, Ohio 45432 / Consulting and mathematical services, research and development of scientific data processing systems, computer programming / S 255 / E 1954 / *C 65
- Tabulating Service of Dallas, 1222 Ft. Worth Ave., Dallas 8, Tex. / Two 402's, two 514's, 093, three 082's, 552, 085, 602, 046, 026, six 024's, five 056's. Computer experience in 1401 and 1790 / Payrolls, sales analysis, inventories, census, surveys, general punched card and punched tape data processing / S 20 / E 1946 / *C 65
- TASK FORCE, Division of Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / Organizational problem-solving with one or more temporary office personnel in various skill families (data processing and computer operators, programmers, and supervisors; executive and technical; typing and stenographic; bookkeeping and office machines; clerical) for conversions, peak loads, unusual situations, second shift, operations, etc. / Administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation / S 5000 / E 1933 / *C 65
- Technical Operations Research, a div. of Technical Operations, Inc., South Ave., Burlington, Mass.; Washington Research Center, 3600 M St., N.W., Washington, D. C. / Industrial, commercial and military operations research; automatic programming systems and digital simulations; war gaming (access to computers) / S 600 / E 1951 / *C 64
- Telecomputing Services, Inc., 8155 Van Nuys Blvd., Suite 250, Panorama City, Calif. 91402 / Consulting assistance available from TSI's L. A. and N. Y. Data Centers in the areas of both scientific and business computer applications / Data reduction involving raw data records from cinetheodolites, tracking telescopes, high-speed cameras, phototheodolites, ballistic cameras, radar, hydrophones, and telemetry; command and control problems as related to field artillery and early warning systems; engineering problems related to rocket motor development; business problems related to manufacturing / Services available on rate schedule or study-contract basis / S 510 / E 1947 / *C 65
- United Nuclear Corporation, 5 New St., White Plains, N. Y. / CDC-1604-A computer, IBM 008, 523, 1000 line/minute printer, keypunch machines, interpreter, sorter, reproducer, etc. / Nuclear reactor and shielding calculations; Monte Carlo codes for neutron and gamma simulation in three dimensional geometry; diffusion and transport codes in one and two dimensional geometries; complete performance of problem analysis, coding and debugging and running or production problems / S 1500 / E 1940 / *C 65
- URS Corp., 1811 Trousdale Dr., Burlingame, Calif. (Also Tucson and Sierra Vista, Ariz., Washington, D. C. and Burlingame, Calif.) / Personnel experienced in major software, such as compilers, executive routines and large scale business systems. Capabilities in applications analysis, feasibility studies, hardware and software evaluation and software design. Professional staff of 70 / Systems conversion or implementation, technical support on a demand basis in design, programming and/or documentation. Consultation concerning hardware design or modification from a software point of view. Evaluation of marketable software alternatives for computer manufacturers. Participation in design approaches to COBOL, FORTRAN and other large scale compiling systems / S 124 / E 1951 / *C 65
- U. S. Naval Weapons Laboratory, Computation and Analysis Laboratory, Dahlgren, Va. / Research mathematicians, computer programmers, programming systems specialists, large-scale computer facility / Applied mathematics, numerical analysis, exterior ballistics, geoballistics, celestial mechanics, weapons effectiveness, computer simulations, general scientific and engineering problems / Services available to government activities and contractors / S 350 / E 1946 / *C 65
- Westinghouse Electric Corp., Analytical Dept., E. Pittsburgh, Pa. / Experienced engineers and scientists in solution of advanced technical problems; experienced business systems analysts specializing in the application of computers to management information systems; full complement of computing equipment. Digital: 7094-II, 2, 1401; analog: Anacom, electronic differential analyzer. Prodec 500 on-line control computer and systems laboratory / Analytical studies and computer programming services in all branches of engineering, management sciences, and manufacturing. Special emphasis on electrical, mechanical, thermal and nuclear aerospace design in performance studies; design optimization of products and systems; analog and digital simulation studies; management information systems, information retrieval, list processing, system specification and documentation. Development of on-line and off-line programs; solution of problems requiring hybrid analog-digital methods / S 100 / E 1929 / *C 65
- Wolf Research & Development Corp., P. O. Box 36, W. Concord, Mass. 01781 / Computer and programming specialists; management analysts; applied mathematicians; physical scientists; engineers / Computer systems and applications; information systems; technical and business management; operational analysis; telemetry; data processing; scientific and engineering analysis to include electronic and logic circuit design, communications, information theory, astrodynamics, spacecraft and rocket booster mechanics, aerothermodynamics, geodesy, meteorology, human factors / S 400 / E 1954 / *C 65
- Zator Co., 140 1/2 Mt. Auburn St., Cambridge, Mass. 02138 / Consulting and service / Information retrieval systems / S 3 / E 1947 / *C 65

- END -

ROSTER OF SOFTWARE SUPPLIERS

Following is a survey of software suppliers in the computer field. Many of them also provide computing and consulting services, and if so, additional descriptions may be found in the "Roster of Electronic Computing and Data Processing Services" and "Roster of Consulting Services". See also in the "Roster of Products and Services", the headings "C27, Computing Services", "C30, Consulting Services", and "P12A, Programming Services."

The survey form asked for:

1. Brief description of the facilities, personnel and capabilities which you have for producing software (programs and systems for using computers and data processors)?

2. Brief description of the types of software that you supply?

3. Number of employees? _____
4. Year established? _____
5. Any remarks? _____

Filled in by: Name _____ Title _____
Organization _____ Address _____

Each full entry from an organization that replied to the survey is in the form of: Name and address of software supplier / Facilities / Types of software supplied / Size and year of establishment. Other entries should be self-explanatory.

The abbreviations used include the following:

S - Size of Organization (number of employees)
E - Established (year of establishment)
*C - "Checked" by the organization; "65" means "in 1965", etc.

All additions, corrections, and comments will be welcome.

Abacus Information Management Co., P. O. Box 399, New York, N. Y. 10008 / Knowledge of computer and assembler construction, maintenance, and evaluation. Experience with all IBM, Honeywell, RCA, and Control Data software and problems which include hardware configuration / Sort-merge, report generator, utility, real time and communications, command and control, and executive systems. Documentation, programming, systems design and operational analysis of existing or proposed systems / S ? / E 1962 / *C 65

Aries Corporation, 4901 W. 77th St., Minneapolis, Minn. and Westgate Research Park, McClean, Va. / Programming staff has contributed directly to the program systems of NTDS, SAGE, INCCC, JOWIAL for the CDC 1604, GS-1 compiler for the AN/USQ-20, Air Traffic Control, DDC GSA and NASA / Experience with full range of compilers, assembly, utility systems. Specialize in real-time support including monitors and diagnostics. Have programmed executive control routines, compilers and assemblers, simulators, diagnostic routines, utility support programs, and scientific problems / S 55 / E 1962 / *C 65

Automation Management, Inc., 25 Brigham St., Westboro, Mass. / Staff or personnel available with experience in management information and control systems, especially those involving communications / AL PUR COM (All Purpose Communication System), cost control systems, systems for speeding the flow of materials and/or information / S 3 / E 1955 / *C 65

Bonner & Moore Associates, Inc., 500 Jefferson Bldg., Houston 2, Tex. / Senior professional

people with experience in design of data processing systems, translators, compilers, and problem-oriented computer languages, technical and other special-purpose coding and operating systems, comprehensive linear programming and operations research systems / Translators, compilers, interpreters, problem-oriented language processors, linear programming systems, general data reduction systems, monitor, executive, and librarian systems, both special and general purpose / S 18 / E 1956 / *C 65

Brandon Applied Systems, Inc., 30 E. 42nd St., New York, N. Y. / Personnel have designed and implemented software for ADX 7300, IBM 1401, 7070, 7080, 7090, and UNIVAC 490 / Specialize in sorting techniques, utility programs and commercial languages / S 15 / E 1964 / *C 65

C-E-I-R, Inc., One Farragut Square, S., Washington, D. C. 20006 / IBM 7090's, 7094's, 1460's and 1401's and peripheral equipment; RCA 501 and 301; CDC 3200. Computing services bureaus, consultants computing technology and management sciences / All types (e.g., compilers, executive systems, translators, assemblers, report generators, monitors, packaged subroutines, applications programs, etc.) / S 1000 / E 1954 / *C 65

Computer Methods Corp., 470 Mamaroneck Ave., White Plains, N. Y. / Specialists in real-time and batch-type data processing, communications, information systems, simulation techniques and project management / Control programs, utility systems, sorts, and report generators / S 30 / E 1961 / *C 65

Computer Usage Co., Inc., 655 Madison Ave., New York 21, N. Y., Offices in Washington, D. C.; Los Angeles, Calif.; Palo Alto, Calif.; Newton Upper Falls, Mass.; Houston, Tex. / A staff of over 300 specialists in systems design, analysis and programming for all digital computers / Problems in analysis, programming, facility management, business and scientific data processing, consulting and computer time sales / S 309 / E 1955 / *C 65

COMRESS (Computer Research Systems and Software), Inc., 2120 Bladensburg Rd., N.E., Washington, D. C. 20018 / Development and marketing of proprietary software / SCERT (Systems and Computers Evaluation and Review Technique), a computerized simulation technique for evaluating hardware/software in terms of descriptions of the systems applications to be programmed; TRANSIM, a machine to machine language translation and simulator / S 35 / E 1962 / *C 65

Control Data Corp., 8100 34th Ave., S., Minneapolis 20, Minn. / 1500 software specialists, including mathematicians, physicists, statisticians, and senior programmers, as well as application specialists, such as business data processing, command and control, communications, aerospace, linear programming, etc. / Compilers, operating systems, control programs, system analysis, and applied programs such as linear programming, operations research, business data processing, communications, industrial systems, military systems, etc. / S 8500 / E 1957 / *C 65

Control Technology, Inc., 1232 Belmont Ave., Long Beach 4, Calif. / Late 1964 expect to have computing facility including analog, digital, and hybrid; use facilities such as CEIR, CUC, EAI, etc. / Specialists in digital fast-time simulation packages, real-time control, and data acquisition programs; compilers and assemblers for digital and hybrid computers; library of proprietary programs for structural dynamics analysis, Laplace to z-transform conversion and other engineering problems / S 15 / E 1960 / *C 64

The Data Center Corp., 3002 Midvale Ave., Los Angeles, 34, Calif. / Business applications programming, systems design, data processing ser-

vices. Also equipment selection, site engineering, operations research / S 10 / E 1960 / *C 64

Data Systems Analysts, Inc., 5900 Westfield Ave., Pennsauken, N. J. / Computer system definition, proposal development, and programming services mainly for real time and communications switching systems / S 12 / E 1963 / *C 65

Dela Data Corporation, 1718 San Pablo Ave., Pinole, Calif. / Programming staff and tabulating equipment in our shop; rent time on 1401 and 7094 / Specialize in unusual applications; test scoring, student scheduling, grade reporting services; programming, consulting / S 6 / E 1959 / *C 65

EAI Computation Center at Los Angeles, Inc., 1500 E. Imperial Highway, El Segundo, Calif. / HYDAC 2400 Hybrid Digital/Analog Computer, including 231R-V DOS 350 and DDP-24. Experienced engineers in analog, logic, digital programming, and integration of hybrid systems / Digital, analog and logic software for hybrid computing, specifically HYDAC 2400. Provide conversion programs, orbital programs, diagnostic programs, etc. / S 19 / E 1956 / *C 64

EDP Management, Inc., P. O. Box 393, New York, N. Y. 10008 / Minimum of 6 (some 9) years of programming competence. Academically past the master level. AUTOCOM, FORTRAN, COBOL, OSAS, SICOM, sort-merge, etc. Machine language, real time, communications, command and control, input-output. Establish performance criteria and develop standards discipline / Programming packages such as: complete communications control executive with drivers; disk and drum monitors; full blown administrative and personnel systems; subscription fulfillment; report editing and file maintenance; accounting systems / S 2 / E 1965 / *C 65

Electronic Associates, Inc., Research & Computation Div., P. O. Box 582, Princeton, N. J. / 4 Model 231-R PAGE 120 amplifier analog computers, 1 HYDAC 2400 Hybrid analog/digital computer, ADIOS (Automatic digital input-output system), 1 model DDP-24 digital computer, 5 TR-48 and 2 TR-20 desk-top analog computers, 1 model 3440 digital dataplotter, numerous 8 channel rectilinear and 11 x 17 x-y recorders, also 8 channel repetitive operation oscilloscope display / Aerospace simulation and weapons system analysis, electromagnetic propagation studies, signal processing, pattern recognition and other scientific applications: industrial process simulation and analysis: development of mathematical models for all types of scientific simulation, including bio-medical, economic, photogrammetric / S 45 / E 1954 / *C 65

Electronic Associates, Inc., Research & Computation Div., Integrated Controls Dept., 4151 Middlefield Rd., Palo Alto, Calif. / 2 Model 231-R, 120 amplifier PAGE analog computers, 2 TR-48, 1 TR-10 desk top analog computer, 1 HYDAC 2400 hybrid analog/digital computer, 1 model DDP-24 digital computer, numerous 8 channel rectilinear recorders, x-y 11" x 17" recorders, 8 channel repetitive operation oscilloscope display / Special capabilities in nuclear reactor simulation, reactor control studies, evaluation of nuclear propulsion systems, analysis of reactor thermal systems. Also, industrial process analysis and simulation capabilities for design of process and control systems / S 20 / E 1963 / *C 64

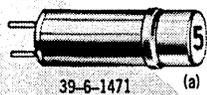
Dr. Ivan Flores, 931 President St., Brooklyn 15, N. Y. / Specialize in analysis, integration, and setup of software program rather than production / Systems analysis and software-hardware integration, for special and general purpose computers / S 3 / E 1960 / *C 65

GPS Instrument Co., Inc., 188 Needham St., Newton, Mass. 02164 / Analog and hybrid computer pro-

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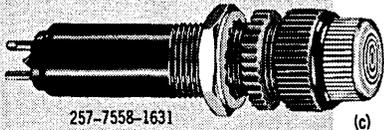
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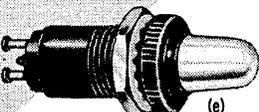
7538 W/39-6-1471 (b)



257-7558-1631 (c)



250-7538-1471 (d)



249-7840-931 (e)

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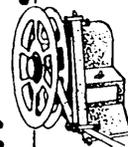
60 STEWART AVENUE, BROOKLYN, N.Y. 11237 212 HYACINTH 7-7600



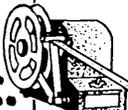
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gramming for aerospace, bio-medical, communica-
tions, and process control / Analog and Hybrid
Computation Center available for rental or com-
plete analysis by experienced applications
specialists. Advanced scientific and computer
application training courses / S 45 / E 1955 /
¢ 65

IDC, Ingenieria de Computadoras, Esmeralda 356,
Buenos Aires, Argentina / Professional staff with
experience in scientific and management computing
programming for industry and government / Applied
programming, operations research and structural
analysis programs, compilers and programming sys-
tems, problem-oriented languages, development of
models for digital simulation / S 8 / E 1963 /
¢ 65

ITT Data Processing Center, Paramus, N. J. / Staff
of 250 analysts, programmers, mathematicians and
engineers. Backgrounds include every major com-
puter system in existence. Experience includes a
full range of applications including operations
research, scientific and commercial data process-
ing, real time, and management systems / Tailor-
made data processing systems designed, programmed
and run for any application / work done in any
computer language for all major computing systems.
Very extensive library of programs. Complete
problems handled from initial analysis to coding,
debugging and productive runs / S 300 / E 1958 /
¢ 65

J. Kates and Associates, a Div. of KCS Ltd., 20
Spadina Rd., Toronto, Ontario, Canada / Program-
mers trained on a variety of manufacturers' com-
puters / Large OR systems, some real-time pro-
gramming, etc. All types of software develop-
ment / S ? / E 1954 / ¢ 64

Mellonics Systems Development Div. of Litton Systems,
Inc., 300 Sunnyvale Office Center, Sunnyvale,
Calif. 94086 / Systems analysts and computer pro-
grammers with working-level knowledge of existing
general-purpose and many special-purpose com-
puting systems and languages / Digital computer
program analysis, design and development — real-
time, scientific, administrative. Compiler
development, executive control programs, simula-
tion programs / S 55 / E 1961 / ¢ 65

Mesa Scientific Corp., 2930 W. Imperial Highway,
Inglewood, Calif. 90303 / 15,000 feet of offices in
Inglewood, Los Angeles, Santa Ana, Calif.;
Silver Spring, Md.; Huntsville, Ala. 200 people,
mostly senior programmers, also computer and
system engineers / Compilers, assemblers, operat-
ing systems — real time systems for data acquisi-
tion and processing and automatic checkout.
Serving most computer manufacturers, U. S. Govern-
ment agencies and major computer users / S 200 /
E 1957 / ¢ 65

Philco, a subsidiary of Ford Motor Co., Information
Systems Dept., Communication and Electronics Div.,
Willow Grove, Pa. / Over 100 programmers prepar-
ing developmental and operational programs and
programming systems for Philco 2000 and 1000 com-
puter systems / Provide users of Philco computers
with full range of software. The upward program
compatibility of computers within this system has
enabled users to upgrade their equipment com-
plement without reprogramming. Philco 2000 FORTRAN
IV; ALIAC III-FORTRAN II compiler; Philco 2000
COBOL; TAC — Philco 2000 assembler-compiler; SIX —
Philco 2000 operating system; LP-2000 — Linear
programming system; STAT/2000 — Philco 2000 sta-
tistical system; CPS — Philco critical path
scheduling system; sort and merge programs —
Philco 2000 sort system; Philco 2000 — PERT III;
PERT/COST; TOPS — total operating programming
system; Philco 2000 XMAS, Expandable machine
accounting system; Philco 200 report generator /
S ? / E 1958 / ¢ 65

Programatics Inc., 11753 Wilshire Blvd., Los Angeles,
Calif. 90025 / Extensive experience in the design
and implementation of the most widely used soft-
ware systems. Each member of the staff has been a
key figure in the successful completion of major
software systems, including ALGOL, COBOL and
FORTRAN / Systems programming; programming re-
search and production of compilers, assemblers,
monitor and operating systems, general systems
programming / S 10 / E 1963 / ¢ 65

Recording & Statistical Co., 176 Broadway, New York,
N. Y. 10038 / Six locations with unit record and
computer equipment up to 15,000 points in size.
Computers include Burroughs 280 magnetic tape
system, as well as 260's, Univac 1004's and IBM
equipment providing facility to match job with
most efficient piece of any particular manufac-
turer's equipment. Emphasis being on perform-
ance / While all locations provide a completely
rounded service to any commercial application,
all specialize in particular back up to the fire
and casualty insurance field (companies and
agents) with both package programs and custom-
ized systems / S 300 / E 1911 / ¢ 65

Technical Advisors, Inc., 104 W. Huron St., Ann
Arbor, Mich. / Staff of civil engineers and land
surveyors specializing in small computer pro-
grams and systems with particular reference to the
LSP-21, LSP-30, and RPC-4000 computers /
Programs and systems covering all phases of sur-
veying and subdivision engineering and planning /
S 10 / E 1954 / ¢ 64

Telecomputing Services, Inc., 8155 Van Nuys Blvd.,
Suite 250, Panorama City, Calif. 91402 / Com-
puter software development and maintenance ser-
vices provided by TSI at data centers located in
Los Angeles, New York, and at government facility
locations: Edwards AFB, Calif.; White Sands

Missile Range, N. Mex.; Slidell, La.; and Hunts-
ville, Ala. Capability exists for the develop-
ment of software for IBM, GE, Honeywell, and
Burroughs computing systems plus a variety of
special purpose computers / Scientific computer
software employed for the processing of missile
flight, rocket static test, artillery fire con-
trol, intelligence, meteorological and satellite
orbital data. Business computer software em-
ployed for management information processing,
PERT, inventory control, payroll and labor dis-
tribution / S 510 / E 1947 / ¢ 65

U.S. Air Force, Computation Div., Data Services Cen-
ter, AFADS-B, Headquarters USAF, Washington 25,
D. C. / Management science, computing systems and
computer programming / S 86 / E 1948 / ¢ 64

URS Corp., 600 N. Garden Ave., Sierra Vista, Ariz.
(corporate hq., 1811 Trousdale Dr., Burlingame,
Calif.) / IBM 1440/131 system. IBM 360/30 on
order. Staff of 70 software specialists with
experience in the complete line of general soft-
ware systems / Batch processing executive/monitor
routines, I/O supervisor systems, debugging
supervisor systems, on-line executive routines,
real-time monitor and scheduling systems, sort
generator of sort systems; compilers including
COBOL and COMPACT COBOL, computer simulators,
mathematical packages, PERT and PERT-COST sys-
tems, specific applications software for scien-
tific and business data processing, special
purpose compilers and assemblers for any custom-
er including data acquisition systems, and
information retrieval systems. Applications
software for military systems including supply
and personnel management and transportation
scheduling / S 124 / E 1951 / ¢ 65

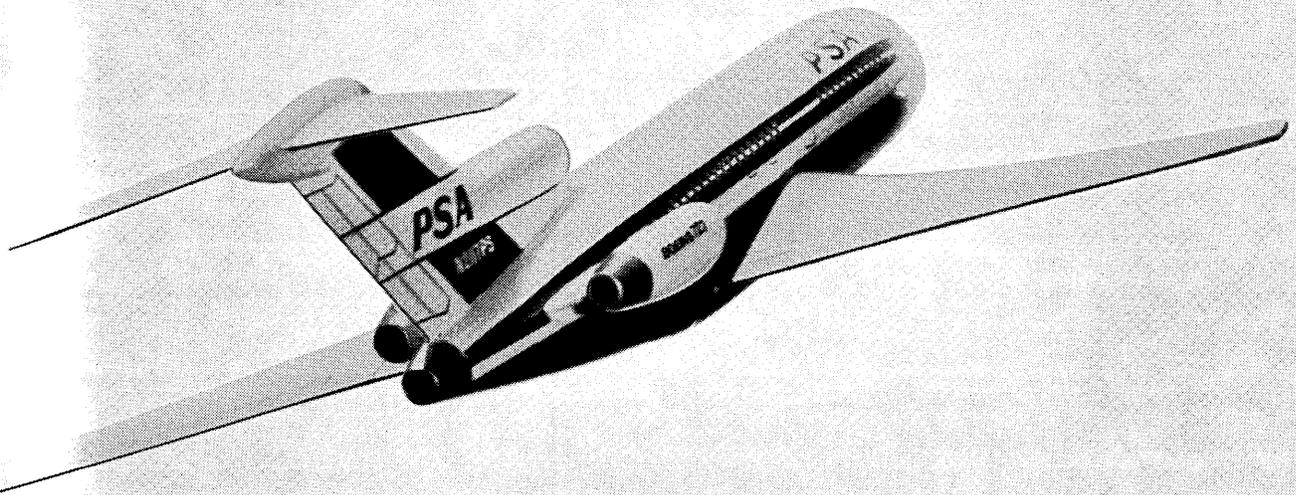
Westinghouse Electric Corp., Analytical Dept., E.
Pittsburgh, Pa. / Experienced business systems
analysts specializing in the application of com-
puters to management information systems. Pro-
vide research development and design services.
Digital: 7094-II; 2, 1401; auxiliary peripheral
equipment; Prodac 580 control computer / Spec-
ific systems and packages available in the areas
of data retrieval, job shop simulation, data
generation. Systems or packages are character-
ized by the intent to incorporate maximum pos-
sible generality to be adapted by other users /
S 100 / E 1929 / ¢ 65

Wolf Research & Development Corp., P. O. Box 36, W.
Concord, Mass. / Large staff of analysts and
programmers with experience in most commercially
available computing equipment / Data processing
systems; hardware-software integration; problem
analysis; programming for scientific, business,
statistical, management information and docu-
mentation applications / S 400 / E 1954 / ¢ 65

- END -

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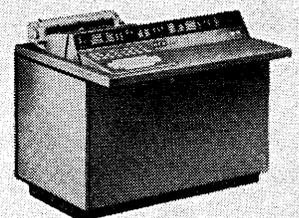
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DESCRIPTIONS OF GENERAL PURPOSE DIGITAL COMPUTERS

The purpose of this report is to give the characteristics of United States general-purpose digital computer currently available for sale or rent.

The three sections give: (1) Internal Characteristics; (2) Input and Output; and (3) Cost and Use.

Any additions, corrections, or comments are invited.

EXPLANATION OF HEADINGS

Internal Characteristics

Solid State?: If the computer is built with primarily solid state devices such as transistors, distinguished from non-solid state devices such as vacuum tubes, a "Y" appears in this column. Solid state devices are generally more reliable than non-solid state devices.

Number System:

Number Base: the number base the machine uses internally (either binary, octal, or decimal).

Bits/Digit: the number of binary bits per digit (digit is either a binary, octal, or decimal digit; SEE Number Base).

Digits/Alphabetic: the number of digits used to represent an alphabetic character.

Word Length: the number of numerical digits per machine word.

Memory:

Number of Words: the number of machine words contained in the memory; may be broken into two or more memory types on two or more lines. Whenever the machine word length is "variable", the Number of Words refers not to the number of machine words but to the number of digits.

Type: memory type, such as magnetic drum (abbreviated "drum"), core storage or delay line.

Access Time: the time required to retrieve information from the memory.

Timing — Add, Multiply, Divide: the average time required to get and complete one operation instruction.

Machine Programming:

Number of Instr.: the number of distinct instructions in the machine's repertoire.

Addresses/Instr.: the number of operand addresses per instruction.

No. Index Registers: a "0" indicates no indexing possible; a "Y" indicates that indexing is possible but information as to the number of index registers was not received.

Indirect Addressing?: "Y" indicates indirect addressing is possible.

Floating Point?: "Y" indicates that the machine can perform in a floating-point mode. (Floating-point arithmetic can be programmed on all machines.)

Input and Output

Magnetic Tape:

No. of Units: maximum number of tape transports which can be directly connected to the computer.

Tape Density: characters per inch.

Tape Speed: speed of reading or writing on tape.

Words/Tape: capacity of a reel of tape.

Punched Cards: speed of reading and punching cards.

Paper Tape: speed of reading and punching paper tape.

Printer Speed: speed of printing, complete lines printed per minute.

Cost and Use

Average Monthly Rental: the rental at an average installation.

Rental Range: the monthly rental range made possible by different configurations of available equipment.

One-Sum Price Range: the range of selling price.

Power: electricity requirements for an average installation.

Floor Space: floor space needed at an average installation.

Air Cond. — Tons: air conditioning required at an average installation.

Abbreviations Used

A/D — analog to digital	MICR — magnetic ink character
B — binary	recognition
BTD — binary to decimal	MRWC — multiple read-write-
D — decimal	compute
DA — digital to analog	N — no, none
DTB — decimal to binary	O — octal
FBD — fast bands on memory	OCR — optical character
drum	recognition
I/O — input/output	P — punch, output
K — 1000	R — read, input
KK — 1,000,000	S — by subroutine
m — millisecond,	u — microsecond, millionth
thousandth of	of a second
a second	V — variable
	Y — yes

Manufacturers and Computers Included

Advanced Scientific Instruments Co., a div. of Electro-Mechanical Research, Inc., 5249 Hanson Court, Minneapolis 29, Minn.
 ASI 210, ASI 420, ASI 2100, ASI 6020, ASI 6040
 Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
 ALWAC III-E, formerly made by above, no longer in production.
 The Bunker-Ramo Corp., 8433 Fallbrook Ave., Canoga Park, Calif.
 BR-133, BR-330, BR-335, BR-340
 Burroughs Corporation, 6071 Second Ave., Detroit 32, Mich.
 Burroughs E-103, 205, 220, 200 Series, 5000
 Clary Corporation, 408 Junipero St., San Gabriel, Calif.
 DE-60
 Compagnie Europeene D'Automatisme Electronique, 151 Rue de Billancourt, Boulogne-Billancourt Seine, France.
 CAE 510
 Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass.
 DDP-24, DDP-224
 Control Data Corp., 8100 34th Ave., S., Minneapolis 20, Minn.
 CDC-160, CDC-160A, CDC-924, CDC-924A, CDC-1604, CDC-1604A,
 CDC-1606, CDC-3100, CDC-3200, CDC-3400, CDC-3600, CDC
 CDC-3800, CDC-6400, CDC-6600, CDC-6800, CDC-8090,
 CDC-8092, G-15, G-20

Digital Computers

Digital Equipment Corp., Main St., Maynard, Mass.
 PDP-1, PDP-4, PDP-5, PDP-6, PDP-7, PDP-8
 Friden, Inc., 2350 Washington St., San Leandro, Calif.
 Friden 6010
 General Electric Co., Computer Dept., 13430 N. Black Canyon
 Highway, Phoenix, Ariz.
 GE-115, GE-205, GE-210, GE-215, GE-225, GE-235, GE-415,
 GE-425, GE-435, GE-625, GE-635
 General Precision, Librascope Group, 808 Western Ave.,
 Glendale 1, Calif.
 General Precision LGP-21, LGP-30, L-2010, L-3000,
 RPC-4000
 H-W Electronics, Inc., 14 Huron Dr., Natick, Mass.
 HW-15K
 HRB-Singer, Inc., (Subsidiary of the Singer Mfg. Co.),
 Science Park, State College, Pa.
 SEMA 2000, SEMAC
 Honeywell Electronic Data Processing Div., 60 Walnut St.,
 Wellesley Hills 81, Mass.
 DATAmatic 1000*, H-120, H-200, H-400, H-800, H-1200,
 H-1400, H-1800, H-2200, H-4200
 Hughes Aircraft Company, Fullerton, Calif.
 H-330
 International Business Machines Corp., Data Processing Div.,
 112 E. Post Rd., White Plains, N.Y.
 IBM Ramac 305, IBM 360, IBM 360/20, IBM 650, 704, 705 III,
 709, 1130, 1401, 1410, 1440, 1460, 1620, 1620 MODEL II,
 1800, 7010, 7030, 7040, 7044, 7070, 7072, 7074, 7080,
 7090, 7094 II

Monroe Calculating Machine Co., Inc., 555 Mitchell St.,
 Orange, N.J.
 Monrobot XI
 The National Cash Register Co., Main & K Sts., Dayton 9,
 Ohio
 NCR 304, 310, 315, 315 RMC, 390, 500
 Philco Corp., Government & Industrial Group, Computer Div.,
 3900 Welsh Rd., Willow Grove, Pa.
 Philco 1000, 2000-210, 2000-211, 2000-212
 Radio Corp. of America, Electronic Data Processing Div.,
 Front & Cooper Sts., Camden 2, N.J.
 RCA 301, 501, 601, 3301, RCA Spectra 70/15, 25, 45, 55
 Raytheon Computer, 2700 So. Fairview St., Santa Ana,
 Calif. 92704
 Raytheon 250, 520
 Scientific Data Systems, Inc., 1542 Fifteenth St., Santa
 Monica, Calif.
 SDS-910, SDS-920, SDS-930, SDS-9300
 UNIVAC Division of Sperry Rand Corp., 1290 Ave. of the
 Americas, New York 19, N.Y.
 Univac I, II, III, 60/120, 490, 1004, 1004 II, 1004 III,
 1050, 1103A, 1105, 1107, Univac File Computer I, II,
 Univac Larc, Univac SS 80/90, SS 80/90 II

* Honeywell DATAmatic 1000 listed under DATAmatic

NAME OF COMPUTER	Solid State?	I. INTERNAL CHARACTERISTICS														
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING				
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?
ALWAC III-E	N	D	4	1.5	8	128 819?	drum drum	1m 9m	1m	17m	17m	90	1	1	Y	N
— Bit by bit checking to and from memory, overflow checking.																
ASI 210	Y	B	6	6	21	8K	core	2.0	6u	50u	52u	67	1	3	Y	S
— Automatic checking by trapped interrupt; communication between computers without buffering.																
ASI 420	Y	B	3	2	42	4-32K	core	2u	6u				1	see note	Y	Y
— Any memory location can be used as an index register.																
ASI 2100	Y	B	6	6	21	4-8K	core	1.1u	4u	30u	44u	67	1	3	Y	S
— Automatic checking by trapped interrupt; multi-level priority interrupt.																
ASI 6020	Y	B	6	6	24	4-8K	core	1.9u	4u	32u	50u	120	1	3	Y	S
— Memory parity check.																
ASI 6040	Y	B	6	6	24	4-8K	core	1.9u	4u	10u	12u	120	1	3	Y	S
— Memory parity check; optional hardware for floating point.																
BR-133	Y	B			15	8-16K	core	2u	4u	19u	19u		6	Y	N	
— Parity check; variable length multiply and divide.																
BR-335	Y	B			28	4-16K	core	1.7u	3.4u	9.5u	17.9u	65	1		Y	Y
— Parity and overflow checking.																
BR-340	Y	B			28	4-65K 3-131K	core drum	8.3u	12u	14u	20u	173	1	3	Y	Y
— Parity and overflow checking. Operation extension instruction allows programmer to design and call for automatically 320 special interpretive instructions.																
Burroughs E-103	N	D			12	220	drum	10m	50m			32	1	2	N	N
Burroughs 205	N	D	4	2	10	80 4000	FBD drum	.85m 8.5m	1.7m 17m	10.8m	14m	64	1	1	N	N
— Checks for: forbidden combination, central timing, drum revolution, overflow.																
Burroughs 220	N	D	4	2	10	2-10K	core	10u	185u	2.9m	3.9m	9%	1	1	N	Y
— Running time clock. Checks for forbidden combination and overflow. Partial word operations.																

Digital Computers

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS														
		NUMBER SYSTEM			MEMORY			TIMING			MACHINE PROGRAMMING					
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?
Burroughs 200 Series	Y	D	7	7	V	4.8K 9.6K	core	10u	740u	2.25m	6.05m	27	3	0	N	N
— Add time: 5 digits + 5 digits; mult. time: 5 digits x 2 digits; div. time: 5 digits ÷ 2 digits. Numerous variations of the 14 instructions. Multiprocessing.																
Burroughs 5000	Y	0	3	2	13	4-32K 32-65K	core drum	6u 8.5m	10u	37u	63u	115	V	0	Y	Y
— Binary, octal, decimal. Parity check. Multiprocessing with single processor; parallel processing with dual processors. Comprehensive interrupt system. Automatic memory exchange and input-output exchange. Simultaneous parallel memory access with multiple modules. Single format fixed and floating point representation																
CAE 510	Y	B	1	6	18	8-32K 192K	core drum	6u 833u	12u	66u	66u	3000+	1	64	Y	Y
— Parity check; variable length multiply and divide; 18 levels interrupt priority system; flexible micro-commands built-in logic.																
CDC 6-15	N	D	4	2	7	2K	drum	14.5m .54m	.54m	.54m	8m	100	1	N	N	N
— Repeat command, indexing by means of interpretive system only.																
CDC 6-20	Y	0	8	8	32	16-32K	core	6u	15u	30u	70u	105	1	63	Y	Y
— Overflow, parity, illegal address checks. Repeat command for add, subtract, test and logic.																
CDC-160	Y	B	6	6	12	4K	core	2.2u	6.4u - 19.2u			65	1	0	Y	N
— Relative and direct addressing; multiply and divide are programmed.																
CDC-160A	Y	B	6	6	12	8-32K 32-64K	core drum	22u 17m	6.4 - 19.2u			134	1	N	Y	N
— Relative and direct addressing. Parity check on I/O transfers. Automatic check on power failure.																
CDC-160G	Y	B	6	6	12	8-131K	core	.7u	2.7u	7u	8.5u	310	1	62	Y	N
CDC-924	Y	B	6	6	24	8-32K	core	5.3u	9.9u	27.9 - 47.1u	38u	64	1	6	Y	N
— Parity checking on I/O transfers. Logical and masking operations, search instructions, parallel mode of operation, real time clock, program interrupt.																
CDC-924A	— Same as 924 except: additional mask interrupt feature, faster data transfer rates (I/O).															
CDC-1604	Y	B	6	6	48	8-32K	core	4.8u	7.2u	25.2 - 63.6u	65.2u	62	1	6	Y	Y
— Parity check on I/O transfers. 2 instructions per word. Real-time clock. Program interrupt.																
CDC-1604A	— Same as 1604 except: additional mask interrupt feature, faster data transfer rates (I/O).															
CDC-3100	Y	B	6	6	24	4-32K	core	1u	3.5u	10.6 - 14.8u	14.5u	120	1	3	Y	Y
CDC-3200	Y	B	3	6	24	64 8-32K	transistor core	.5u .7u	1.25u - 2.5u	8.75 - 12u	12u	100	1	3	Y	Y
— Microprogramming available in character handling. Complete parity check - one parity bit associated with each 6 bit byte of 24 bit word. BCD arithmetic, character addressing, priority interrupts.																
CDC-3400	Y	B	6	6	48	16-32K	core	.7u	2.6u	22u	22u	76	1	6	Y	Y
— Parity checking on I/O transfers and storage.																
CDC-3600	Y	B	6	6	48	32-262K	core	.7u	2u	2.12 - 6.5u	2.12 - 14.9u	86	1	6	Y	Y
— Parity checking on I/O transfers and storage parity. Microprogramming option available. Storage expandable in 16K modules to 262K. Additional data channels to a total of 32 may be added.																
CDC-3800	Y	B	6	6	48	32-262K	core	.4u	1.3u	5.25u	11.7u	95	1	6	Y	Y
CDC-6400	Y	B	3	6	60	32-131K	core	.5u	1.1u	5.6u	5.6u	68	3	7		Y
CDC-6600	Y	B	3	6	60	32-131K	core	.5u	.4u	1u	2.9u	68	3	7		Y
— Indirect addressing only in peripheral processor. Checking on I/O equipment and transfer to and from computer. 10 functional units, 32-15 bit stack with look-ahead and -back.																
CDC-6800	Y	B	3	6	60	32-131K	core	.125u	.1u	.25u	.75u	68	3	7		Y

Digital Computers

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS															
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING					
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?	
CDC-8090	Y	B	3	6	12	4-32K	core	6.4u	6.4 - 19.2u				134	1	0	Y	N
— 3 I/O operation can. Relative (forward and backward) and direct microprogramming.																	
CDC-8092	Y	B	6	6	12	2-4K 2048-4096	core	4u	8-12u				42	1		Y	N
— Relative addressing. One buffer I/O channel and one normal channel are standard equipment. All 160A I/O equipment can be used.																	
DATAmatic 1000	N	D	4	6	48	2K	core	12u	115u				69	3		N	N
DDP-24	Y	B	4	6	24	4-32K	core	3u	10u	30u	32u		59	1	1-3	Y	N
— Floating point on software only. Parity on I/O only. Interrupt standard, with specific memory destination. Eight level interrupt priority system, and interrupt of cascaded indirect addressed commands standard.																	
DDP-224	Y	B	4			4-65K	core	.8u	3.8	6.45	17.0		72	1	1-3	Y	
— Hardware optional. Parity on I/O. Arithmetic overflow checks. Mul/Div commands. Systems options for multiprocessor systems. Access distributor unit, time multiplex unit, fully buffered channels, memory lockout, processors.																	
DE-60	Y	D	4		18	32-160	drum	7.5m	55m	130m	112m		45	5	Y	N	N
— Overflow detection. Automatic decimal point alignment. Program trace routine built into hardware. External interchangeable function generators.																	
Friden 6010	Y	B	4		64	15	core	100u	1.3m	50m			242	1		N	N
GE-115	Y	B	4	8	8	4-8K	core	8u	148u				25	2	N	N	N
GE-205	Y	B	6	6	20	4-16K	core	36u	72u	198u	504u	300+	1	96	N	Y	
— Double precision arithmetic. Floating point arithmetic optional. 4-bit decimal add and subtract; 3 digits per word. Multiple read-write-compute. MICR document sorter-reader available. Disc storage unit with 199-ms access time; data communications equipment available.																	
GE-210	Y	D	4	2	6	4-8K	core	32u	64u	550u	1200u		90	1	1	N	N
— Double precision mode.																	
GE-215	Y	B	6	6	20	4-16K	core	36u	72u	198u	504u	300+	1	96	N	Y	
— See GE-205																	
GE-225	Y	B	6	6	20	4-16K	core	18u	36u	162u	468u	300+	1	96	N	Y	
— See GE-205																	
GE-235	Y	B	6	6	20	4-16K	core	6u	12u	30u	42u	300+	1	96	N	Y	
— See GE-205																	
GE-415	Y	D	6	6	24	4-32K	core	5.8u	17.4u	390u	646u	200+	1-2	6+	Y	Y	
— Any-level indexing by any memory word; scatter/gather; automatic program interrupt; relocatable accumulator. Multiple read-write-compute. Floating point arithmetic available. MICR document sorter-reader available. Disc storage units available. Direct-access data communications provisions optional.																	
GE-425	Y	D	6	6	24	8-32K	core	5.1u	15.9u	362u	598u	200+	1-2	6+	Y	Y	
— See GE-415																	
GE-435	Y	D	6	6	24	16-32K	core	2.7u	8.8u	250u	450u	200+	1-2	6+	Y	Y	
— See GE-415																	
GE-625	Y	B	6	6	36	32-262K	core	?u	3u	6u	14.5u	170	1	8+	Y	Y	
— All system memory is directly addressable by processors, I/O controllers, and real-time devices. Total mission compatibility for commercial, aerospace and ground-based military computers.																	
GE-635	Y	B	6	6	36	32-262K	core	1u	2.7u	5.9u	14.2u	170	1	8+	Y	Y	
— See GE-625																	
General Precision LGP-21	Y	B	6	4	32	4K	disc	51m	.39m	25m	26u	23	1	N	N	N	
— Oscilloscope display of registers.																	
General Precision LGP-30	N	B	4	6	32	4K	drum	8.5m	.25m	17m	17m	16	1	0	N	N	
— Interlacing of words on drum reduces memory access time. No automatic checking. Oscilloscope display of registers. Programmed subroutines.																	
General Precision L-2010	Y	B				4K	disc	5m - 7.8u	78.1m	2.42m - 1.56u	2.5m - 2.34u		32	1		N	N
— Overflow, multiplication checking, parity check on paper tape input.																	

Digital Computers

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS														
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING				
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?
General Precision L-3000	Y	B	6	6	48	4-64K	core	2.5u	16u	23u	36u	97	1	11	Y	Y
— Parity checking throughout system, verified arithmetic unit, dual recording optional in files. Breakdown control, program branching via flip-flops.																
General Precision RPC 4000	Y	B	6	4	32	8K	drum	8.5m	.25m	17m	17m	32	1	1	N	N
— Parity checking of input.																
H-120	Y	D,B	4	6	6	2-32K	core	1.5m	105u			38	1	6	Y	N
H-200	Y	D,B	4	6	6	4-65K	core	1.0m	44u			46	1	6 or 15	Y	N
H-330	Y	B			48	16-131K	core	1.8u	1.8u				1	24	Y	Y
— Instruction look-ahead and overlapped core banks allow increased internal speed. Word size may be 24, 30, 36 or 48 bits. 24 decrement registers available.																
H-400	Y	B,D,0	4	6	48	1-4K	core	4.5m	111u			48	3	3	N	N
— May be used as binary machine with 48 bit word.																
H-800	Y	B,D,0	4	6	48	2-65.5K	core	31m	24u	150u	312u	61	3	64	Y	Y
— 8 multiple channel programming. Can be used as a 48 bit word size binary machine.																
H-1200	Y	D,B	4	6	6	8-131K	core	750ns	33u			46+	1	30	Y	Y
H-1400	Y	B,D,0	4	6	48	4096-32,768	core	3.25m	78u				3	3	N	Y
H-1800	Y	B,D,0	4	6	48	2-131K	core	11m	8u			63	3	64	Y	Y
— May be used as 48 bit machine, with both binary and decimal instructions included. Up to eight programs can be processed simultaneously.																
H-2200	Y	D,B	4	6	6	16,384-262,144	core	500ns	22u			48	1	30	Y	S
H-4200	Y	D,B	4	6	24	32,768-524,288	core	375ns/char.	7.5u			48	1	30	Y	Y
HW-15K	Y	0	6	6	24	4K	drum	8.5m	650u	500u	800u	12	1	0	N	S
— Multiply, divide, floating point programmed. Parity checking on words read from drum. Words interlaced on drum.																
IBM Ramac 305	N	B			V	2000-5-20KK	drum disk	10m-600m	50m	V	V		2	0	N	N
— Parity check. Variable word length.																
IBM System/360	Y	B	4	8	32	256-512K-8-128K	core	1u-2u	1.05u-39u	2.8u-313u	5.7u-560u	142	0-2	16	Y	Y
— Parity checks at 8 points, arithmetic in parallel and checked; fault locating technique and diagnostics. Multiplex and selector channels employ separate logic facilities; storage protection, 4 floating point registers, separate fixed point, decimal and floating point logic; double density packing of decimal digits; automatic program switching with interrupt logic, I/O switching.																
IBM 360/20	Y	B	4	8	32	4-16K	core	3.6m	180m	314.6m	639m	37	1	8	Y	N
IBM 650	N	D			10	60-1-4K-6-12KK	core drum disk	.1m-425m	.7m-7.3m		11m	100	1	3	N	Y
— Multiply and divide timing refer to 5 digit fields. 60 core words and disk memory are optional. Disk access can be overlapped. Operation code, bi-quinary, and validity checks. Table look up.																
IBM 704	N	B	3	2	36	4-32K	core	12u	24u	240u	240u	91	1	3	N	Y
— Overflow, underflow, transfer trapping mode, divide, floating point trap checks.																
IBM 705 III	N	D	7	1	V	20-80K-60K	core drum	8m-	.087m	.606m	3.35m	60	1	0	Y	N
— Internal parity check.																
IBM 709	N	B	3	2	36	4-32K	core	12u	24u	24 - 240u	36 - 240u	196	1	3	Y	Y
— Overflow, underflow, divide, floating point trap checks. Multiple channel programming, sense indicator register.																

Digital Computers

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS													
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING			
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?
IBM 1130	Y	B	16		4-8K	core	3.6m	8m	25.7m	76m	35	1 3	Y	N	
IBM 1401	Y	D	7 1	V	1.4 - 16K 10-20KK 2-15KK	core disk disk	11.5u 550m 150m	230u	2.1m	2.6m	43	2 3	N	N	
— Parity, character code and address validity checks. Multiply divide instructions are optional. Easily adaptable to operate with the 7000 series.															
IBM 1410	Y	D	7 1	V	10-80K 10-280KK 2-15KK	core disk disk	4.5u 160m 150m	110u	1.2m	1.3m	190	2 15	N	N	
— Code and address validity checks, parity check. Dual channel, priority feature, overlap, table look up, synchronization.															
IBM 1440	Y	B,D	4 6	V	V	core	11.5u	99.9u	1.3m	1.5m	43	2 3	N	N	
— Parity, operation code, validity.															
IBM 1460	Y	D	7 1	V	8-16K 2-15K	core disk	6u	108u	1.1m	1.4m	43	1,2, 3 3	N	N	
— Parity, character code and address validity checks. Multiple printer, wide variety of tape drives, paper tape I/O, tele-processing capabilities.															
IBM 1620	Y	D	6 2	V	20-60K	core	20u	560u	4.96m	16.86m	32	2 0	Y	Y	
— Parity check. 5 additional instructions optional. Immediate addressing, branch transmit.															
IBM 1620 MODEL II	Y	D	6 2	V	20-60K 2-8KK	core disk	10u 250m	140u	1.21m	3.23m	42	2 0	Y	Y	
— Parity check.															
IBM 1800	Y	B	16	32	4-32K	core	2-4m	4.5u	14.2u	42.2u	27	1 3	Y	N	
— Double precision standard.															
IBM 7010	Y	D	6 6	6	40-80K	core	2.4u	35.2u	260u	V	114	0,1, 15 2	N	N	
— Parity and bi-quinary checking. One or two channels, process overlap, priority interrupt.															
IBM 7030 (STRETCH)	Y	B	4 6	64	16-262K	core	2.2u	1.5u				1 16	Y	Y	
— Instruction look ahead and overlapped core banks allow increased internal speed.															
IBM 7040	Y	B	4 6	36	4-32K 28-280KK	core disk	8.0u 160m	16u	3.2 - 48u	18.5 - 61u	73	1 3	Y	Y	
— Optional additional instructions: 42. Memory parity, I/O parity, floating point trapping (overflow, underflow). Multiple channel — memory protection, clock interval timer, double precision floating point.															
IBM 7044	Y	B	4 6	36	8-32K 28-280KK	core disk	2.5u 160m	5u	22.5 - 37.5u	7.5 - 50u	73	1 3	Y*	Y	
— Optional additional machine instructions: 42. Memory and I/O parity, floating point trapping (overflow, underflow). Multiple channel — memory protection, clock-interval timer, double precision floating point.															
IBM 7070	Y	D	5 2	10	5-10K 28-430KK	core disk	6u 160m	72u	924u	792 - 984u	200	1 99	Y	Y	
— Divide time refers to 5 digit quotient. Fully checked adder, transfer check. Priority processing. Zero suppression. Scatter read-write.															
IBM 7072	Y	D	5 2	10	5-30K	core	6u	12u	64u	74u	200	1 99	Y	Y	
— See remarks under IBM 7070.															
IBM 7074	Y	D	5 2	10	5-30K 28-430KK	core disk	4u 160m	10u	56u	70u	200	1 99	Y	Y	
— See remarks under IBM 7070.															
IBM 7080	Y	D	7 1	V	1K 80-160K 28-280KK	core core disk	1u 2u 160m	11u	100u	253u	106	1 0	Y	N	
— Parity checking.															
IBM 7090	Y	B	3 2	36	32K 28-280KK 1-10KK	core disk drum	2.18u 160m 8.6m	4.36u	4.36 - 30.52u	4.36 - 30.52u	227	1 3	Y	Y	
— Floating point trap, transfer trapping, overflow, underflow, and divide checks. Multiple channel.															

Digital Computers

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS														
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING				
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?
IBM 7094 II	Y	B	3	2	36	32K 28-280KK 1-10KK	core disk drum	1.4u 160m 8.6m	2.8u	2.8 - 5.6u	2.8 - 9.8u	268	1	7	Y	Y
— Floating point, transfer trapping, I/O parity, divide checks. Multiple channel, double precision floating point, instruction overlap.																
Monrobot XI	Y	B	1	6	32	1-2K	drum	6m	3m	28m	7-2n	27	1	0	N	Y
— Two instructions per word. Parity. Tested by program.																
NCR 304	Y	D	6	6	60	2.4-4.8K	core	60u	600u	2820u	2940u	68	3	30	N	Y
— Parity and echo checking. Instructions are 2 words long. A single-address microprogrammed instruction system is included. Off-line copy permits tape system to copy the 'father' tape offline until account being searched is found. Numbers may be packed and unpacked by command. Self-linking. Magnetic tape is gapless, with automatic repositioning.																
NCR 310	Y	0	4	6	12	4K	core	6.4u	12.8u			62	1	0	Y	N
— Software package. Computer is a version of the CDC-160. Multiply and divide must be programmed.																
NCR 315	Y	D	4	6	12	10-80K	core	6u	42u	97u	222u	142	1	32	N	N
— Parity and echo checking. Demand interrupt permits priority interrupt of processor by peripherals.																
NCR 315 RMC	Y	D	4	6	16	2K	rods	800ns	10.4m	196m	203m	184	1	32	Y	Y
NCR 390	Y	D	4		48	200	core	107u	11m	75m+	119m+	20	3	0	N	N
— There are 10 "string of address" type instructions, e.g., "sum A through D". Automatic address incrementing.																
NCR 500	Y	D	4	8	24	400	core	22.5u	99m	125m	190m	50	4	3	N	N
PDP-1	Y	B	4	6	18	4-65K	core	5u	10u	20u	30u	28	1	0	Y	N
— Microprogramming. Optional 16 channel sequence break, program resumes according to interrupting channel. Built-in marginal checking facilities.																
PDP-4	Y	B	6	4	18	4-32K	core	8u	16u	100u	184u	16	1	N	Y	Y
— Multiply and divide operations programmed. Floating point programmed. Built-in marginal voltage checking, auto-indexing.																
PDP-5	Y	B	4	6	12	1-32K	core	6u	18u	150u	162u	8	1	8	Y	N
— Built-in marginal voltage checking (with power supply). Auto-indexing: when locations 10-17 are indirectly addressed, contents are indexed by one, then used as effective address.																
PDP-6	Y	B	any	any	any	16-262K	core 16 flip-flop	4.3u .4u	16.1u	12.4u	363	1	15	Y	Y	
— Sum checking on I/O transfers. Parity on tape and drum transfers. Priority interrupt, variable size byte, block move, list processing instruction.																
PDP-7	Y	B	4	6	18	4-32K	core	0.45u	3.5u	6.1u	9.0u	8	1	8	Y	S
PDP-8	Y	B	4	6	12	4096 to 32,768	core	1.6u	32u	15u	30u	31	1	8	Y	S
Philco 1000	Y	B,D	6	6	6	4-32K	core	3u	80u	700u	2000u	90	1-4	4	N	N
— Parity checking to and from memory. Hardware insts. for BTD and DTB, BIN to OCT and OCT to BIN, BIN and DEC arithmetic available. Can communicate with a Philco 2000 by mem. to mem. transfer, all tapes in common, and through the real-time system. Asynchronous logic. Variable or fixed word length. Modular building block concept.																
Philco 2000-210	Y	D	6	1	8	8-32K 32K	core drum	4u 25m	14.8u	69.9u	73.8u	225	1	8	N	Y
— Repeat modes, asynchronous operation, automatic interrupt.																
Philco 2000-211	Y	D	6	1	8	8-32K 32K	core core	4u	4.1u	34.9u	36.7u	225	1	8	N	Y
— Transmission checking. Repeat modes, asynchronous operation, automatic interrupt.																
Philco 2000-212	Y	D	6	1	8	32-65K	core	7u	.55u	4.3u	9.8u	250	1	8	Y	Y
— Transmission parity checking. Four way processing, four repeat modes, automatic interrupt, asynchronous parallel memory access. Look ahead. 7 instructions may be processed simultaneously. High-density drum, high-speed disc file systems and real-time systems may be included.																
RCA 301	Y	D	7	7	49	10-40K	core	7u	273u	8.4m	18m	41	2	3	Y	Y
— Multiply and divide are programmed. Scientific model of 301 processor provides high speed fixed or floating point arithmetic operations.																

Digital Computers

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS														
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING				
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?
RCA 501	Y	B,D,0	7	7	7	16-262K	core	12-15u	384u	12.43m	3.45m	49	2	7	N	N
— Indirect addressing limited to scatter and gather operations.																
RCA 601	Y	B	3-8	1	8-16	8-32K	core	.9-1.5u	6u	70u	214u	121	2	8	Y	Y
— Variable length instructions are 1/2 word, or 2-1/2 words long. Multiple program processing and memory overlap. Double precision arithmetic.																
RCA 3301	Y	B,D	6	6	6	200 40-160K	core	214ns 1.5u	40m 12u	.85m 26u	1.65m 40u	61	2	3	Y	Y
— Parity checking to/from core, I/O parity. Fully compatible with RCA 301; 4-way simultaneous operations, real-time interrupt, multi-program operation, communications up to 160 lines, code translate instruction, memory to memory between 3301's or 3301 and 301.																
RCA Spectra 70/15	Y	D	4		8	4-8K	core	2m	62m	S	S	26	2		N	N
RCA Spectra 70/25	Y	D	4	8	32	16-65K	core	1.5m	36.75m	196.5m	330.5m	31	2		N	N
RCA Spectra 70/45	Y	D	4	8	32	16-262K	core	1.44m	17.46m	77.9m	89m	144	2		N	Y
RCA Spectra 70/55	Y	D	4	8	32	65-524K	core	.84m	7.74m	20.74m	24.18m	144	2	15	N	Y
Raytheon 250	Y	B	1		22	16 16K	delay	.09m 1.5m	12u 24u	276u 276u	252u 252u	59	1	1	N	Y
— Parity checking. Memory consists of magnetostrictive delay lines.																
Raytheon 520	Y	B,D,0		6	24+	256-4096 4-32K	biax core	2u 2u	1u	3u	12.5u	64	1	7+	Y	Y
— Instructions comprising a command set are completely microprogrammed. Memory parity, I/O parity, automatic and/or programmed interrupt.																
SDS-910	Y	B	4	6	24	2-16K	core	8u	16u	248u	500u	42	1	1	Y	N
— Multiply and divide programmed. Memory parity check, input/output parity.																
SDS-920	Y	B	4	6	24	4-16K	core	8u	16u	32u	224u	66	1	1	Y	N
— Has microprogrammed register. Memory parity check, input/output parity.																
SDS-930	Y	B	4	6	24	4-32K	core	.7u	3.85u	7.7u	19.25u	67	1	1	Y	Y
— Parity check on memory and I/O operations.																
SDS-9300	Y	B	4	6	24	4-32K	core	.7u	1.75u	7u	15.75u	115	1	3	Y	Y
— See SDS-930.																
SEMA 2000	Y	D	4	8	40	2-20K	drum	8.5m	350u	.5-50m		30	1	1	N	N
— Odd parity checking on read and write, checks synchronization of drums, checks on performance of all instructions. Negative, zero and flag selectors, address modification features.																
SEMAC	Y	D	4	8	15	3 1/2 10K	trans. drum	1m 8.5m	340m 8.5m	170m 170m	170m 170m	64	1		N	N
— Instructions defined by plugboard wiring. Parity, drum synchronization.																
Univac I	N	D	7	1	11	1000	delay	242u	525u	2.15m	3.95m	45	1	0	N	N
— Duplicate arithmetic and comparison circuitry, parity check.																
Univac II	N	D	7	1	12	2000	core	40u	200u	1.9m	3.7m	47	1	0	N	N
— Parity check, some duplicate circuits.																
Univac III	Y	D	4	1.5	6	8-32K	core	4u	4u	76u	68u	67	1	15	Y	Y
— Field selection, automatic checking, interrupt, multiple word operands, scatter read, gather write, addressable clock. Concurrent operation of 8 functionally independent programs.																
Univac 490	Y	B	1	6	30	16-32K 78KK	core drum	4.8u 17m	6.7u	29.76u	69u	62	1	8	N	N
— Illegal function and millisecond timeout checks. Concurrent program operation via automatic interrupts. Jump designators and operand designators. All peripherals have checking.																
Univac 60/120	N	Biquin-ary	6	6	V	60-120 digits	vacuum		10m	50m	50m	10	3		N	Y
— Automatic checking. Ability to read and punch in same card.																
Univac 1004	Y	B			V	961 char.	core	8u	160u	4880u	7668u	62	2		N	N
— Light-dark reader check; weighted hole count punch check.																
Univac 1004-II	Y	B			V	961 char.						62				
Univac 1004-III	Y	B			V	961 char.	core	8u	160u	4880u	7668u	62	2		N	N

Digital Computers

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS														
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING				
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing	Floating Point?
Univac 1050	Y	B,D	6	6	5	8-65K 4-32K	core core	2u 4.5u	63u 31u	196u 42u	266u 93u	47	1	7	N	N
— Odd parity checking. Automatic feature makes possible simultaneous processing of multiple applications. Eight channels, concurrent peripheral programs.																
Univac 1103A	N	B	1	6	36	4-12K 16-32K	core drum	8u 17m	60u	410u	490u	50	2	0	N	Y
— Parity, overflow, lockout, main control checks. Interrupt feature and repeat command.																
Univac 1105	N	B	1	6	36	8-12K 16-32K	core drum	8u 17m	60u	410u	490u	50	2	0	N	Y
— Parity, overflow, lockout checking. Interrupt feature and repeat command.																
Univac 1107	Y	B	1	6	36	128 65K	film core	.3u 1.8u	4u	12u	31.8u	115	1	15	Y	Y
— Overflow check. Index addressing cascadable, 128 loop count registers, automatic incrementation.																
Univac File Computer I	N	D	7	1	12	20 1020	core drum	.9m 3.1m	8.6m	23.8m	27.5m	23	3	0	N	N
— Additional 19 plugboard instructions and 63 in/out instructions. Components partially solid state.																
Univac File Computer II	N	D	7	1	12	2000	core	.63u	3.4u			23	3	0	N	N
— See remarks under Univac File Computer I.																
Univac Larc	Y	D	5	2	12	100 10-97K 6KK	core core drums	1u 4u 68m	4u	8u	28u	76	1	99	Y	Y
— "Processor" controls in/out and information transfer. 76 summary orders from computer to processor, 88 processor instructions, including in/out. Automatic checking and 20% duplicate circuits. All single-bit errors detected. Look-ahead permits fast add. 1, 2, or 3 addresses per instruction.																
Univac SS 80/90	Y	D	4	1.5	10	200-1600 2.4-7K	FBD drum	425u 1.7m	510u	2.2m	2.4m	53	1	3	N	N
— Parity, overflow, logical checks.																
Univac SS 80/90 II	Y	Bi- quinary	4	6	10	1280 200-1200 2400-7600	core drum drum	17u 425u 1700u	136u	688u	1173u	76	1	9	N	N
— Odd parity check. Multiword transfers drum to core and core to drum. Full alphanumeric compare (program interrupt is optional).																

II. INPUT AND OUTPUT

NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
ALWAC III-E	16	175	17.5K	460K	100R 100P	200R 50P	150
— Parity checking. Magnetic tape, card and paper tape editing. Simultaneous read-write-compute. Plotter may be added.							
ASI 210	32	200	22.5K	1.5KK	800R 250P	500R 110P	400
— Peripheral equipment can operate independently and simultaneously; buffered communication; independent program interrupt. MRWC; plotters, typewriters, A/D, D/A.							
ASI 420	64	200	22.5-62K		800R 250P	500R 110P	1000
— Analog buffer available with card reader. X-Y plotter available. 200 lpm printer available.							
ASI 2100	32	200	22.5K	1.5KK	800R 250P	500R 110P	400
— MRWC; plotter, typewriter, A/D, D/A, remote capabilities, multi-computer-to-computer communication link.							
ASI 6020	32	556		66KC	800R 250P	300R 60P	400
— Choice of communications I/O channels: permits serial character transfer, parallel word transfer, variable field transfer, and cyclic transfer.							

Digital Computers

INPUT AND OUTPUT							
NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
ASI 6040	32	556	66KC		800R 250P	300R 60P	400
BR-133	— I/O operations controlled through 3-level priority interrupt system. Optional high speed capability.						
BR-335					100R 100P	300R 110P	400
	— Magnetic tape available but not recommended for most on-line, closed-loop industrial process control applications. 128 word digital output buffer. Logging typewriter, over 1K analog inputs, over 100 analog outputs, over 500 digital I/O.						
BR-340					200R 100P	up to 1000R 60P	300+
	— Magnetic tape available, but not recommended for most on-line, closed-loop industrial process control applications. All input-output peripheral devices are individually buffered. Logging typewriters, over 1000 analog inputs, over 100 analog outputs, over 3,500 digital I/O.						
Burroughs E-103	N				*	20R	*
	— *Card read at 17/20 columns per sec., card punch at 17 columns per sec. Printer, semi-ganged, prints at 24 digits per sec. Data plotter may be used.						
Burroughs 205	10	100	6000	400K	300R 100P	540R 60P	150
	— Card and print editing via buffer drums and format bands. Datafile Multiple Tape Bin available as auxiliary storage — 20,000,000 digits per file, 10 files available. Dual lane magnetic tape, independent search in both directions, addressable tape.						
Burroughs 220	10	208	25K	1.3KK	300R 100P	1000R 60P	1500 150
	— Card and print editing via buffer drums and format bands. Datafile Multiple Tape Bin available as auxiliary storage — 65,000,000 digits per file, 10 files available. Dual lane magnetic tape, independent search and scan. High speed printer may be used on-line or off-line.						
Burroughs B200 Series	6	200-555	18-50-66K	1.3KK	800R 300P	1000R 100P	700
	— Card readers, punches, printers, MICR sorter-reader fully buffered. Ledger record processor. Data communications disk file; Bull & ICT code compatibility; binary tapes (read & write). Automatic checking of paper tape.						
Burroughs 5000	16	555 200	66K 24K	2KK	800R 300P	1000R 100P	700
	— Complete multiple read-write-compute buffering. Tape format compatible with IBM 729II and 729IV units. Plotter may be added. Vertical and horizontal magnetic tape parity checking. Data communications, disk file. Automatic checking of paper tape.						
CAE 510	16	200, 556	15-41K		800R 100P	600R 60P	600-1000
	— I/O operations controlled through 18 levels priority interrupt system. Special linkage unit for visual display consoles and fast buffer memory blocks. Versatile I/O system for digital and analog signals. XY incremental plotters.						
CDC G-15	4	57	430	300K	100R 100P	250R 17P	100
	— Tape search speed is 2600 char/sec. Optional paper tape punch speeds: 400R, 60P. Magnetic tape editing and checking. Tape reads in both directions. Tape and card operations buffered. Graph plotter, digital differential analyzer may be added.						
CDC G-20	144	1100	240K	1KK	800R 250P	500R 110P	1000
	— Magnetic tape editing, programmed print editing. High print speed refers to wholly numerical lines. Multiple read-write-compute.						
CDC-160	32	200-556	15-41.7K	7.6KK	1200R 250P	350R 110P	1000 150
	— Overlap start-top time. Magnetic drum, plotters, A/D converters, typewriter.						
CDC-160A	32	200-500	15-41.7K	11.3KK	250-1200R 100-250P	350R 110P	600-1000 150
	— 1 buffer channel standard, second buffer channel optional. Mag-drum, plotter, A/D, typewriter, arithmetic unit.						
CDC-160G	512	200, 556, 800	30-120K	11.5KK	1200R 250P	350R 110P	1000
CDC-924	48	200-556	15-41.7K	4KK	1200R 250P	350R 110P	1000 150
	— 3 bi-directional buffer channels. Simultaneous read, write and compute. Mag-drum, plotter, A/D, typewriter.						
CIX-924A	— Same as 924.						
CDC-1604	48	200, 556, 800	30-120K	2KK	1200R 250P	350R 110P	1000
	— Multiple read-write-compute. 3 bi-directional buffer channels. 1 high speed channel.						

Digital Computers

INPUT AND OUTPUT							
NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
CDC-3100	512	200,556 800	7.5-120K	4KK	1600R 250P	350R 110P	600-100 150
CDC-3200	512	200-556	120K	4KK	1200R 250P	350R 110P	1000
	— Multiple read-write-compute.						
CDC-3400	512	200-800	7.5-120K	2KK	1200R 250P	350R 110P	1000
	— Multiple read-write-compute. Disk, drum, typewriter.						
CDC-3600	4096	200-556- 800	7.5-120K	2KK	1200R 250P	350R 110P	1000
	— Multiple read, write, and compute. Up to 32 data channels. Satellite computer, disk and drum storage, data display device.						
CDC-3800	4096	200-800	7.5-120K	2KK	1200R 250P	350R 110P	1000
CDC-6400	1280	200,556, 800	120K	11.5 x 10 ³	1200R 250P	350R 110P	1000
CDC-6600	1280	200,556, 800	120K	1.6KK 11.5 x 10 ³	1200R 250P	350R 110P	1000
	— 12 simultaneous read, write and compute. Disk, drum, display devices.						
CDC-6800	1280	200,556, 800	120K	11.5 x 10 ³	1200R 250P	350R 110P	1000
CDC-8090	— I/O equipment same as 160A.						
CDC-8092				11.3KK			
	— Peripheral equipment same as for 160A. Buffer channel allows 2 I/O operations to take place simultaneously.						
DATAmatic 1000	64		133K	3.1KK	400R 150P		900
DDP-24	16	200-555	6-41.6K	4KK	200R 100P	300R 60P	300
	— Parity checking. Optional cycle stealing mode, or total overlap. Block transfers, standard commands, I/O directly with AJ, max transfer, I/O rate 166,000 24-bit words/second. I/O options include Plotter, (digital) A/D-D/A channels, bulk storage (drum, core) real time clock, Data phone I/O, Kineplex, etc.						
DJP-224	64		45-112-150K 25-62.2-83.3K		200R 100P	300R 60P	300
	— Longitudinal and horizontal parity generate and check. Multiple fully overlapped operation of processors and fully buffered I/O units. CRT, drum, disk, A/D, D/A, plotters, analog computers, discrete outputs, discrete inputs, word and character I/O channels, buffered word and character I/O channels, direct memory access units, fully buffered I/O control units for memory complex communication. Independent memories, multiple fully overlapped memory operation.						
DE-60	N				N	N	15
	— Print and compute simultaneously. Typewriter, numeric keyboard.						
Friden 6010					10R 10P	10R 10P	10cps
GE-115					600R 300P	400R 100P	600
GE-205	8	200,556, 800	15K 42K 60K	7.7KK	1500R 300P	1000R 110P	900
GE-210	13		30K		1500R 100P	500R 60P	1000
GE-215	8	see GE-205	see GE-205	7.7KK	1500R 300P	1000R 110P	900
GE-225	64	see GE-205	see GE-205	7.7KK	1500R 300P	1000R 110P	900
GE-235	56	see GE-205	see GE-205	7.7KK	1500R 300P	1000R 110P	900
GE-415	88	200,556, 800	7.5K 15K 21K 30K 42K 60K 83K	5.5KK	900R 100P	500R 150P	1200

Digital Computers

INPUT AND OUTPUT							
NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
GE-425	88	see GE-415	see GE-415	5.5KK	900R 100P	500R 150P	1200
GE-435	88	see GE-415	see GE-415	5.5KK	900R 100P	500R 150P	1200
GE-625	no limit	200,556, 800	30K 83K 120K	3.8KK	900R 100P	500R 150P	1200
GE-635	no limit	see GE-625	see GE-625	3.8KK	900R 100P	500R 150P	1200
General Precision LGP-21	N				N	10, 60R 10, 60P	N
General Precision LGP-30	N				N	200R 20P	N
	— No simultaneous calculating.						
General Precision L-2010	N				N	60, 300R 100P	N
	— Parity check on input; reading, writing and computing simultaneously; incremental plotter.						
General Precision L-3000	1023	555.5	50K		200-800R 100P	350R 60P	1000
	— Simultaneous read-write-compute. Model 210 X-Y plotter, CRT display. File subsystems carry 200 million characters of disk storage each.						
General Precision RPC 4000	N					200, 500R 20, 300P	
	— No simultaneous paper tape-compute.						
H-120	12	200-800	7.2-88.8K		400-800R 400P	600R 120P	450- 1300
H-200	64	200-800	7.2-88.8K		400-800R 400P	600R 120P	450- 1300
H-330	128		30-83K		1500R 300P	350R 110P	1000
H-400	8	400,555	48-133K		800R 250P	1000R 110P	900
	— Automatic magnetic tape error correction. Tape reads in both directions.						
H-800	64	400,555	48-186K		800R 250P	1000R 110P	900
	— Automatic magnetic tape error correction. Tape reads in both directions.						
H-1200	64	200-800	7.2-88.8K		400-800R 400P	600R 120P	450- 1300
H-1400	16	400,555	48-133K		800R 250P	1000R 110P	900
	— Program interrupt available.						
H-1800	64	400,555	48-186K		800R 250P	500, 1000R 110P	900
	— Magnetic tapes read forward and reverse with orthotronic error correction.						
H-2200	128	200-800	7.2-88.8K		400-800R 400P	600R 120P	450- 1300
H-4200	256	200-800	7.2-88.8K		400-800R 400P	600R 120P	450- 1300
HW-15K	N				100R	20R 60P	15.6cps
	— Typewriter input at 120 char/sec. Simultaneous read-write-compute.						
IBM Ramac 305	N				125R 100P	60R 60P	150
	— Control panel editing. Simultaneous read-compute or write-compute.						
IBM 360/20	8	800 bits	22.5-340K	18.5KK	300-1000R 60-250P	1000R	150-1400
	— Completely buffered I/O units, simultaneous read and write; I/O operations overlapped with processing. Remote inquiry terminals including process control units. Optical and magnetic character recognition devices. Random access devices: 400KK character strip file, 4KK character 1 2MC drum, 112KK character disk storage, 7.25KK char. interchangeable disk pack. Visual display: 12", 3848 char. display terminal w/buffer, .600 char./sec. low cost display station. Graphic data processing systems. Remote inquiry terminals include process control units.						

Digital Computers

INPUT AND OUTPUT							
NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
IBM 650	6	200	15K	450K	155R 100P	60	150
— Control panel editing. Automatic checking. Simultaneous read-write-compute. Bulk disk storage (see INTERNAL CHARACTERISTICS).							
IBM 704	10	200	15K		250R 100P		150
— Control panel editing. Automatic checking. Limited overlap of computing with reading or writing. Cathode ray tube plotter may be attached. Physical tape records of any length: physical records can be broken into any number of logical records.							
IBM 705 III	100	556	62.5K	16KK	250R 100P		1000 500 150
— Automatic checking. Internal tape editing. Read-write-compute simultaneously.							
IBM 709	48	200-556	15-62.5K		250R 100P		150
— Control panel editing. Physical tape records of any length; physical records contain any number of logical records. Read-write-compute simultaneously.							
IBM 1130					300-400R 80-160 col/sec	14.8R 14.8P	80 alph. 110 numer.
IBM 1401	6	200- 556, 1511	7.2 62.5		800R 250P	500R 150P	600 1285
— Programmed editing. Print is buffered. High speed for printer refers to the printing of entirely numerical lines. A magnetic ink reader-sorter, an optical character reader, and many other devices may be attached; Hypertape drive, Model 2, having 1511 char/inch density and 34K char/sec. speed. Can operate with 3022 digit/inch density and 68K digit/sec. speed.							
IBM 1410	20	200-556, 800, 1511	7.2-90K		800R 250P	500R	600, 1100
— In/out editing commands. Automatic checking. Bulk disk storage (see INTERNAL CHARACTERISTICS). Read-write-compute. 1412 magnetic character reader may be added. TELETYPE remote inquiry data transmission, direct data entry. Hypertape drives, Model 2 having 1511 char/inch density and 34K char/sec. speed. Can operate with 3022 digit/inch density and 68K digit/sec. speed.							
IBM 1440					300-400R V	500R 150P	120-600
— Printer buffer. 1311 disk storage drives—Max.5, 77K char. rate uses removeable and interchangeable disk packs containing up to 3KK char. each. (Max. capacity up to 15KK char. on line.)							
IBM 1460	6	200-800	7.5-90K		800R 250P	500R 150P	600-3300
— Overlap processing with reading or writing. Hypertape available. 1050 data communication terminal, console, 13" disk drives, 1060 data communications unit, 1009 data transmission unit, 7710 data transmission unit, magnetic ink, direct data channel connection to 1440, 1401 or 1460.							
IBM 1620	N				250R 125P	150R 15P	150-600
— Automatic checking. Card input-output buffered. 1711 Data Converter can be added for real-time input.							
IBM 1620 MODEL II	— Same as Model I						
IBM 1800	2401-2402	800 bits	22.5-70Kc	1.2KK	300-400R 80-160 col/sec	14.8R 14.8P	120-600
IBM 7010	20	200-800	23-90K	V	800R 250P	500R	500
— Buffered unit record, paper tape, teleprocessing, inquiry and paper tape. Two channel tape and disk. 1301 and 1311 disk files.							
IBM 7030 (STRETCH)	256		62K		1000R 250P		600
— Input and output usually under separate control. Access time of magnetic tape units varies from 51 to 231 msec, depending on file organization.							
IBM 7040	50	200, 556, 800	7.2-		800R 250P	500	600, 1100
— Simultaneous read-write-compute. Disk files, teletype, remote inquiry, data transmission unit, 1401. Direct data entry, up to 3 printers (total 3300 LPM) may be used.							
IBM 7044	50	200,556, 800	90K		800R 250P	500	600, 1100
— Simultaneous read-write-compute. Disk files, teletype, remote inquiry, data transmission unit, 1401. Direct data entry, up to 3 printers (total 3300 LPM) may be used.							
IBM 7070	40	200, 556, 800	15K-90K		500R 250P	500R	600, 1100 150
— Automatic checking. Magnetic tape, paper tape, and printer editing. Paper tape off-line; 1100 & 600 line/min. printer off-line. Multiple read-write-compute. 1401 and 1460 used for input and output at high speeds.							

Digital Computers

INPUT AND OUTPUT							
NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
IBM 7072	40	200-556	7.2-20K		500R 250P	500R	600, 1100 150
— Automatic checking. Magnetic tape, paper tape, and printer editing. Paper tape off-line; 1100 & 600 line/min. printer is off-line. Multiple read-write-compute. 1401 and 1460 used for data input and output at high speeds.							
IBM 7074	40	200, 556, 800, 1511	15K-170K		500R 250P	500R	600 150
— Automatic checking. Magnetic tape, paper tape, and printer editing. Paper tape off-line. 1100 & 600 line/min. printer off-line. Multiple read-write-compute. 1401 and 1460 used for input and output at high speeds. Hypertape drives, Model 1, having 1511 char/inch density and 170K char/sec speed. Can operate with 3022 digit/inch density and 340K digit/sec. speed.							
IBM 7080	40	200, 556, 800, 1511	15-170K				
— Uses 1401 & 1460 for card, paper tape and print. Complete overlap of read-write-compute. Hypertape drives, Model 1, having 1511 char/inch density and 170 char/sec speed can operate with 3022 digit/inch density and 340K digit/sec. speed.							
IBM 7090	80	200, 556, 800, 1511	15-170K		250R 100P		150
— Card and print editing with panel. Automatic checking, full tape checking. Multiple read-write-compute using a 7606 Multiplexor and up to eight 7606 Data Channels. Direct data entry, teletype, remote inquiry, programmed transmission control.							
IBM 7094 II	80	200, 556, 800, 1511	15K-170K		250R 100P		150
— Card and print editing with panel. Simultaneous read-write-compute buffering. Disk files, teletype, remote inquiry, programmed transmission control. Data transmission, drum files.							
Monrobot XI	N				12	20R 10P	60
— Up to 4 in/out devices can be attached. Typewriter. 16 columns/sec. card read. Time between characters read, write, or print may be used for computation. X-Y plotter available.							
NCR 304	64	200	30K	850K	2000R 250P	1800R 60P	680, 900
— Automatic checking of cards and paper tape. Complete magnetic tape checking, including read-back. In/out editing. Read-write on tapes simultaneously. Card and print buffered. Up to 4 MICR sorter-readers can be used, buffered if only 1 unit used. Printer skips blank lines at the rate of 5040 lines/min.							
NCR 310	20	200	15-30K			600R 1000R 110P	600 720 1620
— High speed printer (24 characters/line) is buffered. Automatic magnetic tape checking; tape editing. Magnetic ink character reader can read 750 MICR documents per minute.							
NCR 315	16	200, 556, 800	12, 24, 66	2.8-11.1KK	2000R-400R 100-250P	600R 120P	680, 900
— Polysynchronous operation with demand interrupt permits simultaneous operation of a number of peripheral units. Automatic checking and editing facilities. 16 CRAM (magnetically encoded cards on a drum) random access memory (235m access time) units allow 240 postings per minute. Up to 4 buffered MICR sorter-readers can process 750 checks per minute.							
NCR 315 RMC	16	200, 556, 800	12, 24, 66, 83Kc	2.8-11KK	2000R 100-250 cpm	600R 120P	1000
NCR 390	N	10		V	15 Col. R 15 Col. P	650R 30P	120
— "Magnetic Tape" refers to a magnetic document (magnetic tape affixed to the back of printed documents) unit. Automatic checking. Editing of punched cards and paper tape. Programmable printer allows for different column arrangements on multiple forms.							
NCR 500					100R 100P	650R 120P	125
PDP-1	24	200-800	1-90K	2-7.5KK	200R, 800R 100P, 300P	400R 63P	300 1000
— Simultaneous read-write-compute. Tape editing. 3 tape units (each with 16 tapes) can be operating simultaneously. Visual cathode ray tube displays, 10" or 5" precision. Light pen for use with CRT. Relay buffers, real-time clocks, A/D, D/A, multiplexers, drums, plotters available.							
PDP-4	24	200-56	1-41K	2-5.5KK	200R, 800R 100P, 300P	300R 63P	300 1000
— Simultaneous read-write-compute possible. All input/output devices are buffered. Micro-tape transport, CRT display, light pen, symbol generator.							
PDP-5	24	200, 556 800	15-90K	2-7.5KK	200R, 800R 100P, 300P	10R, 300R 10P, 63.3P	300 1000
— All I/O devices are separately buffered; read, write, compute can be done simultaneously. Microtape, CRT displays, graph plotters, light pen, data communications subsystems.							

Digital Computers

INPUT AND OUTPUT							
NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
PDP-6	24	800	90K		200R, 800R 100P, 300P	400R 63.3P	300 1000
— Simultaneous read-write-compute. CRT, large drum, time-sharing via communication sub-system, TTY. Parity, sum check.							
PDP-7	8	200, 556, 800	15-90K	2KK	800R 100P	300R 63.3P	300
PDP-8	8	200, 556, 800	15-90Kc	3KK	100-800R 100-200P	300R 63-110P	300-600
Philco 1000	64	750 200,556,800	90K 25K	19-66KK 19KK	2000R 600R 100P 200P	1000R 60P	900 300
— Simultaneous reading and writing. All slow-speed equipment may be buffered. I/O typewriters, X-Y digital plotters, data link (remote communications system, any competitive tape may be attached.)							
Philco 2000-210	16	750	90K	2.4KK	2000R 100P	1000R 60P	900
— Parity checking, editing. Tape is addressable and reads in both directions. 4 tape units can operate simultaneously with computation. The addition of a buffer permits simultaneous printing and card handling with the above. A real-time scanner, clock, and data link with another computer may be added.							
Philco 2000-211	16	750	90K	2.4KK	2000R 100P	1000R 60P	900
— Automatic checking; editing. Tape can be read in both directions and is addressable. 9 in/out devices can operate simultaneously, 4 can be magnetic tape units. A clock, interval timer, tape translator, and link with another computer may be added.							
Philco 2000-212	64	750 2200	90K 240K	2.4KK 4.9KK	2000R 100P	1000R 60P	900
— Tape reads in both directions. Automatic checking and editing. 9 input-output devices can operate simultaneously with computation. 4 of the 9 can be magnetic tape units. Real-time devices, on-line disc and drum systems, IBM tape translator, clock, interval timer, and a data link system (communication between computers) can be added. Uses Philco 1000 as satellite system.							
RCA 301	12	333	10K	4.8KK	600-1500R 250P	100-1000R 100P	1000, 1075
— Tape reads in both directions. Random access storage, 3 to 5.4 billion char. Data Disc files available 22-176KK capacity. Read-compute, write-compute, or read-write simultaneously. MICR, OCR, and data communication devices also available. Multiple tape lister, buffered printer, memory to memory 301 to 301 or 301 to 3301.							
RCA 501	62	333- 667	33- 66K	9.6-19.2KK	400R 100P	1000R 100-300P	600
— Tapes read in both directions. Read-compute, write-compute, or read-write simultaneously.							
RCA 601	48	333- 800	33-66- 120K	1.1-2.7KK		300R 10P	1000
— Tape reads in both directions. Multiple read-write-compute. Multiple operation of independent programs, variable data length operations.							
RCA 3301	24	200- 800	30- 120K	5.6-23KK	900-1470R 300P	100-1000R 100P	1000
— Up to 4 simultaneous I/O operations plus computer and buffer device overlap. Buffered card punch and printer. Random access, interrogating typewriters, communication, and timing devices also available.							
RCA Spectra 70/15	96	800	23K		1435R 100-300P	200R 100P	600 or 1250
RCA Spectra 70/25	243	800	23K		1435R 100-300P	200R 100P	600 or 1250
RCA Spectra 70/45	256	800	23K		1435R 100-300P	200R 100P	600 or 1250
RCA Spectra 70/55	256	800	23K		1435R 100-300P	200R 100P	600 or 1250
Raytheon 250	6	200	2K	1KK	100R	110R 110P	
— Automatic checking of magnetic tape. No editing facilities. Voltage plotters, incremental plotters, A/D and D/A converters, high speed buffers, commutators, etc. may be added. Computer can handle many in/out devices. Flip-flop resistor designed to accept parallel or serial information.							
Raytheon 520	8	200-556- 800	9-120Kc		800R 250P	300R 110P	300, 600, 1250
— High speed paper tape reader with 500 char. per sec with spooler. Selectric typewriter, tape preparation unit with selectric typewriter, paper tape reader and paper tape punch. Disc Pack (8KK bits storage). Multidevice controller for Data Systems interface.							

Digital Computers

INPUT AND OUTPUT							
NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
SDS-910	16	200 556	15K 41.7K	1.5KK 4KK	200R 100P	300R 60P	300 1200
— Parallel (by word) input/output commands. Optional 2nd input/output buffer. Optional levels of priority to 1024 levels. Magnetic drums, magnetic discs, SDS MAGPAK magnetic tape system, digital plotters, oscilloscope display equipment.							
SDS-920	16	200 556	15K 41.7K	1.5KK 4KK	200R 100P	300R 60P	300
— See SDS-910.							
SDS-930	64	200, 556 800	15-96K	1.5-6KK	200R 100P	300R 60P	300 1200
— Up to 4 Time-Multiplexed communication channels, and up to 4 Direct Access communication channels. Magnetic drums, magnetic discs, SDS MAGPAK magnetic tape system, digital plotters, oscilloscope display equipment, data communications equipment, up to 1,024 levels of priority interrupt.							
SDS-9300	64	200, 556 800	15-96K	1.5-6KK	200R 100P	300R 60P	300 1200
-- See SDS-930							
SEMA 2000	8	50	375	72K	650R 200P	300R 30P	150
— SIM configuration permits programmable typewriter, adding machine, telephone, cash register, direct keyboard inputs and printed hard copy, punched paper tape and vocal readouts.							
SEMAC	8	50	375	72K	650R 200P	300R 50P	150
Univac I	10	128	12.8K	137K	300R 120P	200R 50P	600
— Card and paper tape equipment is off-line via magnetic tape. Simultaneous read-write-compute. Typewriter. Automatic magnetic tape re-read check.							
Univac II	16	250	25K	420K	300R 120P	200R 50P	600
— Plugboard editing. Card and paper tape off-line via magnetic tape. Simultaneous read-write-compute. Typewriter.							
Univac III	32	333 250	133K 25K	20KK .44KK	700R 300P	1000R 115P	700-922
— Programmed editing. Multiple read-write-compute. Card punching printer may be used. XY plotter, AMA paper tape, FASTRAND random access storage, Kimble Tag Reader, A.B. Dick Strip Printer, 63 char. reader, printer and punch.							
Univac 490	192	1027 250	100-125K 25K	6.5KK 1.4KK	600R 300P	400R 350R 110P	700-922
— Automatic checking. Multiple read-write-compute. System adaptable to analog devices. A variety of specialized inquiry-answering devices available. Allows peripherals to operate independently of computer processing. Univac Standard Communication System enables 490 to communicate with data transmission devices. Cal. Comp. plotter can be used on line to the 490.							
Univac 60/120					125-150R 125-150P	146R	
— Parity check of punched paper tape. Card reading/processing; paper tape read/processing. System consists of a calculator, card reader and punch. Paper tape reader, Model 410, is optional.							
Univac 1004					400R 200P	400R 110P	400
— Various simultaneous data handling operations. Basic system includes card processor, card reader and printer. Card punch is optional. Auxiliary card reader - 400 CPM - 3 stackers; DLT-1-communications - 342 CPS - leased line; DLT-2-communications - 300 CPS - leased line; read punch-200CPM.							
Univac 1004-II					615R 200P	400R 110P	600
Univac 1004-III	2	200, 556 800			615R 200P	400R 110P	600
Univac 1050	16	1330	133K	37.3KK	900R 300P	400R 1000R 110P	922
— Tapes are not word oriented. Printer has buffer. Various simultaneous data handling operations. 8 channels available. In addition to normal printers, card tape equipment, FASTRAND mass storage - 66KK char. - 500KK char., UNIVAC 1004 card processor, communications which handles 32 simplex lines at all normal common carrier speeds.							
Univac 1103A	10	128	12.8K	326K	120R 120P	200R 60P	600
— Card plugboard editing. Automatic card checking. 2 input-output registers. Tape reads in both directions. Typewriter.							
Univac 1105	24	208	21K	846K	120R 120P	200R 60P	600
— Simultaneous read-write-compute. Flexowriter output. Cathode ray tube output optional. Plotting feature on high speed printer. Off-line digital to analog devices available.							

Digital Computers

INPUT AND OUTPUT							
NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
Univac 1107	192	1000 250 125	120K	5.5KK 1.2KK	700R 300P	400R 100P 300P	700 600
— Programmed editing, automatic checking. Complete simultaneous read-write-compute. System adapted to analog devices.							
Univac File Computer I	10	139	10K	200K	150R 150P	200R 60P	600
— Plugboard control for cards, paper tape and printer. Tape is read in both directions and is checked by re-read. Sorting-collating device, typewriter, Randex Mass Storage are available. Multiple read-write-compute.							
Univac File Computer II	— See Univac File Computer I						
Univac Larc	40	250 125	25K 12.5K	600K 300K		10R 10P	600
— Input/output control is done by Processor, completely independent of computation. Almost any in/out device can be added to the system.							
Univac SS 80/90	10	250	25K	570K	600R 150P		600
— Programmed editing and checking for card and print. Complete tape checks. Read-write-compute. Tape read and write cannot be overlapped. Randex Mass Memory and card punching printer available.							
Univac SS 80/90 II	10				600R 150P	500R 100P	600
— Magnetic tape specifications same as for SS 80/90 Model I. Various simultaneous processes.							

III. COST AND USE

NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space — Sq. Ft.	Air Cond. — Tons
ALWAC III-E	\$2,400	\$1,820-\$3,600	\$50,000-\$80,000	7.4KW	35(computer)	85°F
— Scientific, real-time, business. Computer is modular and extra units are easily added.						
ASI-210	\$2,600	\$2,135-\$6,000	\$70,000-\$200,000	1.75KW	50	N
— Scientific, and real-time. FORTRAN I and II available; diagnostic program. Assembler.						
ASI 420	\$12,500	\$8,500-\$33,500	\$400,000-\$450,000			N
— Scientific, business, and real-time. FORTRAN, Intercom Translator available. Data channel "traps" may be set to ignore or recognize an interrupt.						
ASI-2100	\$3,000	\$2,530-\$6,000	\$75,000-\$200,000	1.56KW	14	N
— Scientific, real-time; Assembler (ASIST), FORTRAN II available; built on modular basis.						
ASI 6020	\$2,500	\$2,150-\$4,000	\$73,500	110/120Kc	50	N
ASI 6040	\$3,000	\$2,420-\$4,000	\$89,500	110/120Kc	50	N
BR-133				1.5KW		N
— No extensive installation site preparation.						
BR-335	\$2,000	\$1,000-\$6,000	\$35,000-\$200,000	3KVA	15	
— Real-time, industrial process control. PROCOMP, includes FORTRAN II and process control statements.						
BR-340	\$6,000		\$200,000-\$400,000	2000	48	
— Real-time, industrial process control. PROCOMP includes FORTRAN II and process control statements.						
Burroughs E-103	\$1,000	\$875-\$1,200	\$20,000-\$30,000	220V	desk size	
— Scientific and business use, desk size.						
Burroughs 205	\$8,000 \$5,760(3yr.)	\$2,400-\$10,000	\$48,000-\$150,000	38KVA	1600	12
— Scientific and business. Datacode compiler, STAR-0 assembly, ALGOL compiler, 604 simulator programs available. Peripheral equipment can be added on a modular basis.						
Burroughs 220	\$17,000	\$5,500-\$20,000	\$250,000-\$1,000,000	45KVA	1600	12
— Scientific, business. STAR 2B, assembly; ALGOL compiler. Computer built on a modular basis, extra memory and peripheral units easily added.						
Burroughs 200 Series		\$3,300-\$9,000	\$140,000-\$375,000		300-500	
— Business. Assembly system, report generator, sort generator available. Multiprocessing software package.						
Burroughs 5000	\$16,850	\$13,000-\$50,000	\$533,000-\$2,000,000	29KVA	625	6
— Scientific and business. Completely modular in memory, input/output channels and peripheral equipment. ALGOL and COBOL compilers. Built-in operating systems. Simultaneous and multi-processing. Two central processors possible.						

Digital Computers

COST AND USE						
NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space — Sq. Ft.	Air Cond. — Tons
CAE 510	\$3,000	\$2,000-\$10,000	\$83,000-\$400,000	3KVA	30	N
	— Scientific, real-time.					
CDC G-15	\$1,530	\$1,485 and up	\$49,500 and up	3.8KVA	100	N
	— Scientific and business. Intercom 500 and 1000, ALGOL compilers. Modular construction. Two computers can be joined.					
CDC G-20	\$15,500	\$8,750 and up	\$390,000 and up	20KVA	600	6
	— Scientific, real-time, business. SPAR, PAR, SNAP assemblies; ALCOM and COBOL compilers. Modular construction permits extra units to be added easily.					
CDC-160	\$2,500	\$1,500 and up	\$60,000 and up	.7KW	12	Y
	— Scientific and business. Power requirements are for the computer only. Desk size. FORTRAN, OSAS (assembler).					
CDC-160A	\$4,500	\$2,250 and up	\$90,000 and up	115V	12	Y
	— Scientific, real-time, business. Space stated for computer only. FORTRAN, AUTOCOMM (commercial compiler), OSAS, SICOM.					
CDC-160G	\$12,800	\$4,182 and up	\$175,000 and up	115VAC	200	Y
CDC-924	\$11,000	\$8,000 and up	\$180,000 and up	3.8KW	400	13
	— Scientific, real-time. CAP (assembler).					
CDC-924A	\$12,000	\$9,000 and up	\$220,000 and up			
	— Same as 924.					
CDC-1604	\$47,000	\$22,500 and up	\$750,000 and up	7.5KW	600	25
	— Scientific, real-time, business. Power and floor space requirements refer to computer and console only. Real time clock. CODAP, FORTRAN, COBOL, JOVIAL available.					
CDC-1604A	\$48,000	\$24,000 and up	\$790,000 and up		200	
	— Same as 1604.					
CDC-3100	\$3,500	\$2,700-\$6,500	\$95,000-\$263,500	440VAC	200	2
CDC-3200	\$12,000	\$8,000 and up	\$280,000 and up	8KVA	200	2
	— Scientific, real-time, business. SCOPE, (MONITOR), COBOL, FORTRAN, COMPASS (Assembly). Power and space requirements refer to computer and console only.					
CDC-3400	\$12,000	\$9,200-\$14,000	\$394,000-\$611,000	4.4KVA	250	2.5
	— Scientific, real-time, business. SCOPE, COMPASS, FORTRAN, COBOL, SORT. Power and space requirements refer to computer and console only.					
CDC-3600	\$40,000	\$28,000-\$111,000	\$1,737,000-\$6,600,000	7.1KVA	1000	6
	— Scientific, real-time, business. FORTRAN, COMPASS (assembler), SCOPE (MONITOR), COBOL, SORT. Typewriter included in main console; real-time clock.					
CDC-3800	\$60,000	\$32,000-\$160,000	\$1,536,000-\$7,500,000	8KVA	1500	40,000BTU
CDC-6400	\$35,000	\$25,000-\$50,000	\$1,250,000-\$2,750,000	208V	40,000 - 70,000	8-12
CDC-6600	\$75,000	\$60,000-\$110,000	\$3,500,000-\$7,000,000	25KVA	40,000 - 70,000	8-12
	— Scientific, real-time, business. Air Con. on peripheral equipment only. Heat exchanger for cent. proc. unit. Assembler, FORTRAN operating system. Peripheral equipment and core storage.					
CDC-6800	\$80,000	\$60,000-\$160,000	\$2,500,000-\$7,000,000	208V	40,000 - 70,000	8-12
CDC-8090		\$29,000 and up				N
	— Scientific, real-time, not real-time, business. Industrial Control Processor, OSASA, FORTRAN, Inserfo, CEPS, Utility Routines. Small basic control computer expandable to medium-size general purpose computer. Compatibility between 160A programs. Field proven softwares.					
CDC-8092	\$1,300	\$725 and up	\$20,000 and up	850W	10	
	— Used principally as a data communication. Room temp. not to exceed 100°F. TOSAS. Highly flexible, multi-purpose, stored program data processor and converter. Word construction is 8 binary digits, parallel throughout, programmable to multiple-precision and to alphanumeric and binary-coded decimal.					
DATAmatic 1000	\$42,000	\$38,700-\$78,000	\$1,100,000-\$4,300,000			
DDP-24	\$2,500	\$2,500-\$17,500	\$79,000-\$700,000	115V	100	
	— Scientific, real-time, data reduction, time-shared applications. Easily expanded. DIP, DAP, DEP, and FORTRAN II.					
DDP-224	\$6,800	\$3,050-\$15,000	\$95,000-\$1,000,000	2-30KVA	100-300	N
	— Real-time, digital simulation, hybrid simulation, command and control. DAP II, DEP II, FORTRAN (REAL TIME), MONITOR, Subroutine library, Diagnostics. Modular, processors, memories, I/O facilities, system modules for multiprocessor systems, satellite I/O units, modular packaging. Modularity to meet system requirements for multiprocessor speed, large or small memory complexes and I/O facility, featuring ease of use; programming, maintenance.					
DE-60	\$625	\$525-\$725	\$20,000 and up	115V	8.4	N
	— Scientific, process control. Desk size, 30" x 36". Hardware allows algebraic statements. Modular construction allows extra units to be added easily. One day programmer training.					

Digital Computers

COST AND USE

NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space — Sq. Ft.	Air Cond. — Tons
Friden 6010	\$750	\$600-\$900	\$19,750-\$29,750	115VAC		N
GE-115	\$1,375		\$66,000			
	— Assembly program and TAB (conversion from punched card systems).					
GE-205	\$2,900		\$140,000	10KVA	550	3
	— Program and peripheral-compatible with GE-215, 225 and 235. Available in program library: Assembly, GECOM compiler, COBOL-61 WIZ scientific compiler, FORTRAN II and IV, Report Generator, Card Program Generator, Critical Path Method and others.					
GE-210	\$14,000		\$700,000	10KVA	1200	3
	— One pass compiler, report generator.					
GE-215	\$6,000		\$290,000	17KVA	700	5
	— Program and peripheral-compatible with GE-205, 225 and 235.					
GE-225	\$8,000		\$390,000	35KVA	1100	12
	— Program and peripheral-compatible with GE-205, 215 and 235.					
GE-235	\$10,900		\$520,000	35KVA	1100	12
	— Program and peripheral-compatible with GE-205, 215 and 225.					
GE-415	\$7,300		\$350,000	10KVA	500	3
	— Program and peripheral-compatible with GE-425 and 435. Available in program library: Macro-Assembly Program, GE-400 COBOL, GE-400 FORTRAN, Report Program Generator, Sort/Merge Generator, GE-400 Operating System, I/O System, Simultaneous Media Conversion, service routines and others.					
GE-425	\$9,600		\$460,000	10KVA	600	3
	— Program and peripheral-compatible with GE-415 and 435.					
GE-435	\$14,000		\$670,000	12KVA	700	4
	— Program and peripheral-compatible with GE-415 and 425.					
GE-625	\$41,000		\$1,850,000	45KVA	1500	15
	— Program and peripheral-compatible with GE-635. Operates normally in multiprogramming mode. GECOS Executive Routine, Macro Assembly Program, FORTRAN IV, FORTRAN II to FORTRAN IV SIFT, COBOL-61 extended, with report writer and sort, application packages, utility and service routines, and others.					
GE-635	\$45,000		\$2,000,000	45KVA	1500	15
	— Program and peripheral-compatible with GE-625. Operates normally in multiprogramming mode.					
General Precision LGP-21	\$750	\$695+	\$16,500-\$25,000	110V	desk	N
	— Scientific, business, engineering education applications.					
General Precision LGP-30	\$1,300	\$1,100	\$24,000-\$30,000	110V	desk	N
	— Business, engineering education, and scientific. Desk size.					
General Precision LGP-2010			\$248,000/basic unit	750W	2 cu. ft.	N
	— I/O units easily added; real-time, general purpose.					
General Precision L-3000	\$50,000	\$25,000 and up	\$1,000,000 and up	25KW	1200	
	— Scientific, real-time, business, command and control operation, management information system. Assembly and compiler programs: ATCOM, BUS, COBOL (1963), LAP 3055.					
General Precision RPC-4000	\$2,100	\$1,865+	\$47,000-\$55,000	110V	desk	N
	— Business, education, scientific. ROAR assembler, COMPACT compiler, ACT IV compiler.					
H-120	\$2,600	\$1,710-\$4,000	\$77,000-\$180,000			
	— Real-time, business. Easycoder assembly. FORTRAN IV and COBOL. Modular construction.					
H-200	\$3,800	\$2550-\$12,000	\$115,000-\$550,000			
	— Same as 120.					
H-330	\$53,000	\$45,000-\$75,000	\$1,500,000-\$2,000,000			
	— Scientific, business and real-time applications. FORTRAN IV compiler available.					
H-400	\$8,500	\$6,000-\$14,000	\$270,000-\$630,000	15KVA	600	5
	— EASY Assembly.					
H-800	\$22,000	\$19,000-\$39,000	\$850,000-\$1,500,000	30KVA	1400	7
	— Argus Assembly; Algebraic and Data Proc Fact compiler.					
H-1200	\$4,700	\$3,400-\$18,000	\$153,000-\$810,000			
	— Scientific, real-time, business. Easycoder assembly. FORTRAN IV and COBOL. Modular construction.					
H-1400	\$14,000	\$10,000-\$22,000	\$450,000-\$990,000			
	— Scientific, business and real-time applications. COBOL '61 and AUTOMATH programming systems available.					
H-1800	\$35,000	\$27,000-\$60,000	\$1,200,000-\$2,700,000			
	— Business compilers: FACT, COBOL '61 (163). Algebraic compilers: AUTOMATH 800, AUTOMATH 1800 (163).					
H-2200	\$8,000	\$6,000-\$23,000	\$270,000-\$1,100,000			
	— Same as 1200.					

Digital Computers

COST AND USE

NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space — Sq. Ft.	Air Cond. — Tons
H-4200	\$17,000 — Same as 1200.	\$15,000-\$30,000	\$675,000-\$1,300,000			
HW-15K	\$475 — Scientific, real-time, business, process control applications.	\$355-\$600	\$19,750-\$24,000	110V	20	N
IBM Ramac 305	\$3,600 — Business. Extra units easily added; computer built on a modular basis. 305 assembly program. Prices exclude tax.	\$2,875 and up	\$167,850 and up	12.6KVA	370	4
IBM System/360		\$2,700-\$115,000	\$133,500-\$5,500,000	72KVA* 8.3KVA**	1.7* 15**	
	— *Small tape-card system; **large 2 channel, tape, disk and extra memory. Scientific, real-time, not-real-time, business, process control. Autocoder, COBOL, FORTRAN, New Programming language.					
IBM 650	\$6,000 — Scientific, business. SOAP assembly. Extra units easily added. Prices exclusive of tax.	\$3,750-\$21,500	\$182,400-\$1,100,000	18KVA	150	5
IBM 704	\$35,000 — Scientific, real-time, business. Computer built on a modular basis; extra units easily added. UASAP and FORTRAN compilers. Prices exclude tax.		\$400,000 and up	110KVA	2200	45
IBM 705 III	\$42,000 — Business and limited scientific. COBOL, PRINT, Autocoder III compilers. Modular construction; extra units easily added. Prices exclude tax.	\$28,000-\$50,000	\$1,400,000-\$2,500,000	85KVA	1500-2000	15-20
IBM 709	\$55,200 — Scientific, real-time, business. Compilers: IBM SOS, SHARE, FAP, FORTRAN. Modular construction; extra units easily added. Prices exclude tax.		\$2,630,000 and up	150KVA	3000	50
IBM 1401	\$6,500 — Scientific, business. SYMBOLIC, Autocoder assemblies; FORTRAN compiler. 7KVA without tape units. Prices exclusive of tax. Extra units easily added.	\$1,900 and up	\$125,150 and up	7-16KVA	450	3.5
IBM 1410	\$11,000 — Scientific, real-time, business. Basic Autocoder assembly; FORTRAN compiler. Extra units are easily added. Prices exclude tax.	\$5,365 and up	\$244,550 and up	29KVA	500	5
IBM 1440	\$2,800 — Business. Autocoder, IOCS, File Organization, Utilities, Sort, RPG. Extra units provide upward growth to 1401, 1460, and 1410. Random access, low cost, processing system.	\$1,540-\$5,500	\$90,000 and up	208,230V	1441	
IBM 1460	\$9,000 — Symbolic, Autocoder assemblies, FORTRAN compiler. Built on modular basis with extra units easily added.	\$4,835 and up	\$236,000 and up	7-16KV	450	3.5
IBM 1620	\$1,600 — Scientific, real-time. FORTRAN, GOTRAN compilers. Symbolic Assembly Program. Floor space refers to computer area only. Extra units easily added. Prices exclude tax.	\$1,600-\$5,000	\$74,500-\$200,000	15A,230V	22	N
IBM 1620 MODEL II	— Same as Model I.					
IBM 7010	\$20,000 — Scientific, real-time, business. Autocoder, COBOL, FORTRAN. Built on module basis with extra units easily added.	\$18,000-\$35,000	\$945,900	208V 230V	500	20K
IBM 7030 (STRETCH)	\$160,000		\$5,000,000-\$7,000,000			
IBM 7040	\$11,850 — Scientific, real-time, business. Assembly and compiler programs: FORTRAN, COBOL, 7090 simulator.		\$625,600	13.9KVA	1220	2.5
IBM 7044	\$21,850 — Scientific, real-time, business. Assembly and compiler programs: FORTRAN, COBOL, 7090 simulator.		\$1,400,000	19KVA	1220	4
IBM 7070	\$24,000 — Scientific and business. 7070 Basic AUTOCODER, AUTOCODER, Four-Tape AUTOCODER, Basic FORTRAN, IOCS compilers. Extra units easily added; computer built on modular basis. Program compatibility with 7072, 7074. Prices exclude tax.		\$1,077,400	45KVA	1200	6
IBM 7072	\$19,825 — Scientific, FORTRAN, Autocoder compilers. Program compatibility with 7070, 7074. Extra units are easily added; computer is built on a modular basis. Prices exclude tax.		\$860,550	45KVA	1200	6
IBM 7074	\$29,300 — Scientific, IOCS, FORTRAN, AUTOCODER compilers. Computer built on a modular basis; extra units easily added. Prices exclude tax. Program compatibility with 7070, 7072.		\$1,284,350	45KVA	1200	6
IBM 7080	\$55,000 — Business and limited scientific. AUTOCODER III, FORTRAN compilers. Modular construction; extra units easily added. Prices exclusive of tax and off-line 1401.	\$45,000-\$70,000	\$2,100,000-\$3,200,000	50KVA	1000-2000	7.5-10

Digital Computers

COST AND USE

NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space — Sq. Ft.	Air Cond. — Tons
IBM 7090	\$64,000		\$2,898,000	35KVA	1400	25
	— Scientific, real-time, business, assembly and compiler programs: IBM SOS, SHARE, FORTRAN, FAP, and Commercial Translator. Prices exclude tax.					
IBM 7094 II	\$76,000		\$3,225,000	36KVA	1400	25
	— Scientific, real-time, business. Assembly and compiler programs: FORTRAN, COBOL, I/O, control system, Package, SORT, Simulators, Utility. 704/709/7090 compatibility.					
Monrobot XI	\$700		\$24,500	850W	2 desks	N
	— Business and scientific. Uses wall outlet. 375 lbs., 48" x 22" x 28".					
NCR 304	\$14,760	\$12,500-\$19,000	\$750,000-\$1,140,000	53KVA	1200	30
	— Scientific, business. Extra units are easily added. NEAT compiler. COBOL compiler.					
NCR 310	\$2,450	\$2,450-\$2,880	\$66,500-\$120,200	310-750W	525	N
	— Scientific, business. Control sorting of MICR documents. 6' x 30" computer area, with extra 3' front and back clearance. OSAP assembly. Extra units are easily added.					
NCR 315	\$6,775	\$3,945-\$30,000	\$203,750-\$1,440,000	17KVA	500	10
	— Scientific, real-time, business. Modular construction permits extra units to be easily added. NEAT and COBOL compilers. Assembler, FORTRAN II, Flexible Algebraic Translator, FORTRAN IV.					
NCR 315 RMC	\$12,000	\$5,000-\$50,000	\$400,000-\$2,000,000	17KVA	500	10
	— Elementary assembler. COBOL, FORTRAN II and IV. Modular construction, units easily added.					
NCR 390	\$1,270	\$995-\$1,860	\$49,500-\$79,000	230V	247	N
	— Business, engineering.					
NCR 500	\$1,435	\$765-\$2,525	\$31,995-\$116,445	230V	450	
	— Modular construction.					
PDP-1			\$120,000-\$350,000	115V	17	N
	— Scientific, real-time. Floor space refers to computer and console only. Modular construction, and units easily added. DECAL algebraic assembler and compiler.					
PDP-4			\$56,000-\$150,000	115V	20	N
	— Scientific, real-time. Modular construction, and units easily added. Symbolic Assembly Program, FORTRAN II.					
PDP-5			\$24,000-\$80,000	115V	10	N
	— Scientific, real-time. Symbolic assembler and FORTRAN II available.					
PDP-6		purchase only	\$240,000-\$2,000,000	8-20KW	1000	N
	— Two special busses permit ease of expansion for I/O and memory. Built in time-sharing. Asynchronous operation permits large memories of different speeds. Directly addressable 2 ¹⁸ words of memory. Ultra-Fast memory, 15 index registers, 16 accumulators.					
PDP-7	\$1,300		\$45,000-\$200,000	2.1KW	29	N
	— Scientific, real-time, business. FORTRAN incorporated for S-coding, mixing symbolic and FORTRAN statements.					
PDP-8	\$525		\$18,000-\$75,000	7.5 amp @ 110VAC	7	N
	— Scientific, real-time, process control, monitoring. Modular construction, most units added on plug-in basis. Macro-type assembler with assoc. on-line debugging.					
Philco 1000	\$7,000	\$6,000-\$15,000	\$250,000-\$750,000	10KW	400	4-6
	— Scientific, real-time, business. Since built on modular basis, extra units easily added. OPAL program, utility routines, SORT, conversion programs, XMAS.					
Philco 2000-210	\$30,000	\$20,000-\$50,000	\$1,000,000-\$2,000,000	24KVA	800	10-12
	— Scientific, business, real-time. Computer is built on a modular basis and extra units are easily added. TAC, ALTAC, FORTRAN IV, COBOL, TOPS compilers.					
Philco 2000-211	\$35,000	\$25,000-\$55,000	\$1,500,000-\$2,900,000	24KVA	1300	10-12
	— Scientific, business, real-time. Computer built on a modular basis and extra units are easily added. TAC, ALTAC, FORTRAN IV, COBOL, TOPS compilers.					
Philco 2000-212	\$55,000	\$35,000-\$100,000	\$1,800,000-\$3,500,000	40KW	1300	10-12
	— Scientific, real-time, business. Extra units are easily added. TAC, ALTAC, FORTRAN IV, COBOL, TOPS compilers.					
Philco 213	\$78,000	\$55,000-\$180,000	\$3,000,000-\$6,000,000	50KW	1800	12-14
	— Scientific, real-time, business. Built on modular basis with extra units easily added. Multi-processing system, 240 KC tapes, fast drums and discs. FORTRAN IV, COBOL, etc.					
RCA 301	\$7,000	\$4,000-\$19,000	\$203,000-\$8,600,000	2.6KVA	400	4
	— Business, scientific. Assembly program, COBOL compiler, FORTRAN, File control processor.					
RCA 501	\$17,000	\$13,700-\$29,900	\$611,400-\$3,018,300	30KVA	1200	8
	— Business. Assembly and compiler programs. COBOL monitor.					
RCA 601	\$32,000	\$24,000-\$68,000	\$1,750,000	55KVA	900	12
	— Assembly program. File control processor, Executive system, Generalized sort and merge.					

Digital Computers

COST AND USE						
NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space — Sq. Ft.	Air Cond. — Tons
RCA 3301	\$14,000	\$10,500	\$536,000	23,2KVA	900	5.3
	— Assembly, COBOL, FORTRAN IV, Executive Control system Sort/Merge, Report Program Generator available. Hardware and functional modularity. Units easily added.					
RCA Spectra 70/15	\$5,000	\$2,600 and up	\$135,000			
	— Assembly system and IOCS. Modular construction.					
RCA Spectra 70/25	\$8,000	\$5,600 and up	\$272,000			
	— Assembly system. File control processor. Report program generator. Modular construction.					
RCA Spectra 70/45	\$13,000	\$8,000 and up	\$394,000			
	— Basic assembly, extended assembly system. COBOL, FORTRAN, Report Program Generator. Modular construction.					
RCA Spectra 70/55	\$20,000	\$13,900 and up	\$749,000			
	— Basic Assembly, extended assembly systems. COBOL, FORTRAN, Report Program Generator. Modular construction.					
Raytheon 250		\$1,200-\$1,350	\$23,500+	115V	4	N
	— Scientific, engineering. Floor space refers to computer and console only. Modular construction permits extra units to be added easily. SNAP assembly program, NELIAC compiler, FORTRAN II.					
Raytheon 520		\$2460+	\$94,000+	110V	24	N
	— Scientific, real-time. Advanced Fortran I and II, assembler, monitor 1620 simulator.					
SDS-910	\$1,790		\$53,000-\$83,000	.7KW	10	N
	— Scientific, real-time. Assembler and FORTRAN II for either computer. ALGOL, Monarch Monitor Routine.					
SDS-920	\$2,690		\$53,000-\$83,000	.9KW	10	N
	— Same as SDS-910.					
SDS-930	\$4,000		\$140,000	2.5KVA	24	N
	— Symbolic assembler, FORTRAN II, Monarch Monitor Routine.					
SDS-9300	\$7,000		\$264,000	4KVA	24	N
	— Symbolic Assembler, FORTRAN IV, Monarch Monitor Routine.					
SEMA 2000	\$700	\$550-\$1,150	\$22,500-\$46,500	115V	4	N
	— Real-time, business.					
SEMAC	\$1,350	\$1,200-\$2,000	\$48,000-\$75,000	115V	16	
	— Business. Built on modular basis with extra units easily added.					
Univac I	\$25,000	\$20,000-\$30,000				
	— Scientific, real-time, business. Assembly programs: FLOW-MATIC, MATH-MATIC, FLEXI-MATIC, XI.					
Univac II	\$28,000	\$25,000-\$30,000	\$1,250,000-\$1,500,000	120KVA	2000	30
	— Scientific, business. FLOW-MATIC, MATH-MATIC, XI assembly programs.					
Univac III	\$23,000	\$19,000-\$75,000	\$925,000-\$3,600,000	47KVA	750	127,500BTU
	— SALT assembly system, FORTRAN IV, COBOL compiler. Scientific, not real-time, business.					
Univac 490	\$25,000	\$18,000 and up	\$810,000 and up	61KVA	196	12
	— Scientific, real-time, business. Extra units easily added. COBOL, SPURT compilers, FORTRAN in fall of 1964. Floor space requirements refer to computer area.					
Univac 60/120	\$1,350	\$740-\$1,350	\$75,000-\$97,500	9KV	350	
	— Scientific, business. Approx. 18 library routines available. Not built on modular basis, but minimum systems may be expanded by additional selection and program steps. Automatic verification.					
Univac 1004	\$1,400	\$1,150-\$1,500	\$46,000-\$66,000	3KV 220V	190	8500BTU output
	— Scientific, business. Basic card processor cabinet includes card reader, printer and processor. High-speed I/O devices.					
Univac 1050	\$5,500	\$2,500-\$15,000	\$100,800-\$600,000	10KVA	375	2000 cu. ft. min. air flow
	— Scientific, business, real-time. Memory capacity may be increased from 8K char. to 32K char. in increments of 4K char. The 1050 using IIIC tape units, is compatible with IBM 1410, 705, 7070, 7080, 7090 systems. PAL Assembly system COBOL and FORTRAN available. Modular and field expandable.					
Univac 1103A	\$35,000	\$21,500-\$45,000	\$922,000-\$1,900,000	82KVA	1800	20
	— Scientific. Extra units easily added. USE UNICODE compilers.					
Univac 1105	\$43,000	\$33,060-\$55,000	\$1,612,000-\$2,700,000	175KVA	3100	35
	— Scientific, real-time, business. AIMACO and UNICODE and USE compilers. Extra units easily added.					
Univac 1107	\$50,000	\$40,000-\$60,000	\$1,800,000-\$2,700,000	93KVA	1200	18
	— Scientific, real-time, business. ALGOL, FORTRAN compilers.					
Univac File Computer I	\$15,000	\$8,000-\$21,000	\$384,000-\$1,108,000	75KVA	1400	60
	— Scientific, real-time, business. FLAP assembly system.					

Digital Computers

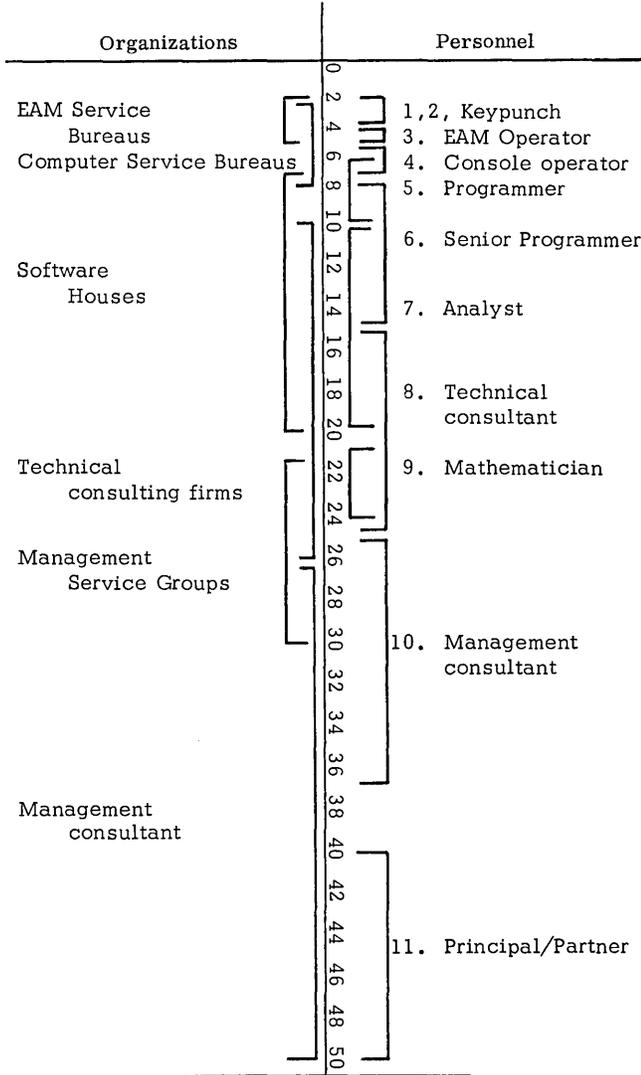
COST AND USE

NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space — Sq. Ft.	Air Cond. — Tons
Univac File Computer II	— See Univac File Computer I.					
Univac Larc	\$135,000	\$135,000 and up	\$7,000,000 and up	350KVA	3000	90
	— Scientific, business, real-time. Second computer unit can be added. SAL assembly.					
Univac SS 80/90	\$8,000			15KVA	800	4
	— Scientific and business. Extra units easily added. Assembly programs: COBOL, SOUP II, UNITRAN, PROGENY compilers. STEP is a modular version of the Solid State 80/90, for users not requiring a full system.					
Univac SS 80/90II	\$8,500	\$6,970-\$15,000	\$350,000-\$750,000	20-38KV	925	11
	— Scientific, business. S-4 assembly system. Up to 20 tape units may be employed through use of a second synchronizer.					

A SPECTRUM OF THE COMPUTER FIELD

(Continued from page 11)

SPECTRUM OF COMPUTER SERVICES



Scale represents cost per hour currently quoted by representative organizations. Source: Brandon Applied Systems, Inc.

as a by-product of other activities. Typically, these classifications might be used:

- Punched card service bureaus — offering 1 or 2, and 3.
- Computer service bureaus — offering 1 or 2, 3, and 4, and probably making available personnel in category 5, programmer, as an inducement; e.g. SBC, STC, Tabulating and Business Services, CEIR.
- “Software houses” — organizations who typically supply 5, 6 or 7 and possibly 8 or 9. Often these organizations expand downward by providing computer time, partially to stimulate their other activities. These organizations often have grown dramatically, through merger or acquisition, e.g. Computer Sciences Corp., Computer Usage Co., Computer Applications, Inc., CEIR; a large number of organizations of this type have begun to supply military and space software requirements, e.g., Planning Research Corp., Documentation Inc., Datatrol (now part of CDC), Computer Dynamics, etc.
- Technical consulting firms — organizations supplying 7, 8, 9 and perhaps 10 or 6 in upward or downward expansion. Examples include Adams Associates, Brandon Applied Systems, Auerbach.
- Management services groups within accounting firms — often asked by accounting clients to expand their practice into technical or systems consulting, offering 7, 8, 9 or 10 and possibly 6. Large management service departments exist in: Price Waterhouse; Arthur Andersen & Co.; Peat Marwick & Mitchell; Lybrand, Ross Bros. & Montgomery.
- Management consultants — offering generally only advisory services, with technical overtones. These firms offer personnel primarily in 8, 9, 10 and 11 and tend to emphasize the upper categories. Examples are: Booz, Allen & Hamilton; McKinsey & Co.; Cresap, McCormick & Paget; and Diebold Group.

Dick H. Brandon
Contributing Editor

CHARACTERISTICS OF GENERAL PURPOSE ANALOG COMPUTERS

Following is a survey of general purpose analog computers, based on returns from a current mailing and information previously published in "Computers and Automation". The editors will be glad to receive any additional entries, corrections, or comments for publishing in an early issue of "Computers and Automation".

Nearly all the abbreviations used in these summaries are like those used in a telephone book--contractions of words of such a kind that the words can be easily guessed, especially if the reader refers to the survey form summarized. "C" means "checked by the organization"; "65" means "in 1965", etc.

REPLY FORM (may be copied on any sheet of paper)

1. Name of Analog Computer: _____
2. Typical field(s) of application: () Scientific
() Business () Real-time () Not real-time
() Other (please describe) _____
3. Accuracy of numerical information the machine will take in and put out, in number of significant figures: () 2 () 3 () 4 () 5 () Other (please describe) _____
4. Number of physical variables that the machine can store at one time: _____
5. Number of units in the computer for performing mathematical operations (OK to give maximum in largest existing installation): a. Adders: _____
b. Multipliers: _____ c. Integrators: _____
d. Branching operations: _____ e. Other (please explain): _____
6. Programming: a. Automatic programming of new problem when a problem changes? () Yes () No
b. Typical amount of time needed to change from one program to another: _____
7. Input-Output: method(s) of giving information or problems to the machine: _____
8. Reliability: a. Automatic checking? () Yes () No
b. Typical operating percent (good time DIVIDED BY attempted-to-run time): _____%
9. Price range: a. One sum: between \$ _____ and \$ _____
b. Monthly rental: between \$ _____ and \$ _____
10. Sales: a. Number sold or rented: _____
b. Number on order: _____
11. Any remarks? _____

This data supplied by: _____

Title _____
Organization _____
Address _____

When filled in, please send this form to COMPUTERS AND AUTOMATION, Berkeley Enterprises, Inc., 815 Washington St., Newtonville, Mass. 02160

Card Programmed Diode Function Generator / scientific problems, real-time or not / ACCUR: 4 signif figures / CAPAC: store $Y = F(X)$ physical variables / LARGST INSTLN: 75 function generators / PRGMG: no autom prgm of new problem when problem changes; 10 second changeover / IN-OUT: punched card / RELIAB: no autom check; operg ratio, 99.95% / sale, \$3000 to \$225,000 / only function generator allowing most instlns to program non-linear functions as rapidly as removable patch panel allows them to program the remainder of the computer / General Computers, Inc., 5990 W. Pico Blvd., Los Angeles 35, Calif. / *C 65

DIAN 60, 120, 180, etc. / for scientific problems, real-time or not / ACCUR: 5 signif figures / CAPAC: store 200 physical variables of more / LARGST INSTLN: 450 adders, 70 multipliers, 200 integrators, 200 to 300 branching operations, also function generators (noise generators) / PRGMG: autom prgm of a new problem when a problem changes; time needed depends on size of problem -- from a few minutes to an hour / IN-OUT: function generators, input-output tables, noise generators / RELIAB: has autom check; operg ratio, 99% / sold or rented; prices available on specific request / Dian Laboratories, Inc., 611 Broadway, New York 10, N.Y. / *C 65

Direct Analog Computer / for scientific problems, not real-time and other (design projects in heat transfer, static stress analysis, vibration, aeroelasticity) / ACCUR: 3 signif figures /

CAPAC: store 50 to 200 physical variables / LARGST INSTLN: 40 multipliers; 100 amplifiers, each of which may be adder, integrator, or current generator; 150 inductors; 200 capacitors; 200 resistors; 200 transformers; decade-set, passive elements employed in simulation of physical systems by means of passive-element networks / PRGMG: no autom prgm of a new problem when the problem changes; 2 days changeover, including check / IN-OUT: Input -- parameters: decade settings, potentiometers; variables: function generators, switching eqmpt, oscillators. Output -- transient: oscilloscope, camera, graphic level recorder; steady state: digital volt meter, autom printer / RELIAB: has autom check / sale, \$150,000 to \$750,000 / sold or rented, 10 / Computer is used for modeling complicated physical systems (thermal and mechanical). Simulation is rapid, with representation over the frequency range 50 to 2000 cycles per sec / CEA, a div. of Berkleonics, Inc., 1221 S. Shamrock, Monrovia, Calif. / *C 64

Educational Analog Computer Model EC-1 / scientific, business, real-time, not real-time / ACCUR: 2 signif figures / CAPAC: none / LARGST INSTLN: 9 adders, 9 multipliers, 9 integrators / PRGMG CHANGEOVER: 15 min. / IN-OUT: patch board with oscilloscope or pen recorder output / RELIAB: no autom check / sale, \$199.95 / Heath Co., Benton Harbor, Mich. / *C 64

Electronic Associates 231R / scientific; real-time, slower than real-time or high-speed repetitive and iterative operation / ACCUR: 4 signif figures / REF: 100 volts / CAPAC: 216 amplifiers / LARGST INSTLN: 45 summers, 30 summer-integrators; multiplier-dividers, electronic resolvers, function generators, logic gates, comparators also avail / PRGMG CHANGEOVER: 10 min / IN-OUT: patch panels, keyboards, paper tape reader, paper tape punch, DVM, X-Y plotter, display scope, T-Y recorder, printer, typewriter / RELIAB: has autom check; operg ratio, 95% / sale, \$33,000 to \$500,000 / also integral sub-system of EAI HYDAC 2000 & HYDAC 2400 Hybrid Digital Analog Computers / Electronic Associates, Inc., West Long Branch, N. J. / *C 65

Electronic Associates EAI 8800 Scientific Computing System / scientific; real-time, slower than real-time or high-speed repetitive and iterative operation / ACCUR: 4 signif figures / REF: 100 volts / CAPAC: over 300 solid-state amplifiers / LARGST INSTLN: 60 summers, 100 summer-integrators, 100 logic gates; synchronous logic elements, multiplier-dividers, electronic resolvers, function generators, comparators, also avail / PRGMG CHANGEOVER: 10 min / IN-OUT: patch panels, I/O system with complete software, keyboards, paper tape reader, paper tape punch, DVM, X-Y plotters, display scope, T-Y recorders, printer, typewriter / RELIAB: has autom check; operg ratio, 97% / sale, \$45,000 to \$650,000 / designed for state-of-the-art analog simulations as well as expansions to a hybrid computational system / Electronic Associates, Inc., West Long Branch, N. J. / *C 65

Electronic Associates HYDAC 2000 / scientific, real-time and faster than real-time; a general-purpose hybrid analog-digital computing system / ACCUR: 4 signif figures / CAPAC: 3000 digital words / LARGST INSTLN: 180 flip-flops, 200 AND gates, 12 delay lines, 40 conversion channels, 400 amplifiers / PRGMG: autom by removable patch panel and servo-set attenuators; 20 min changeover / IN-OUT: patch panel, paper tape, keyboard, typewriter, digital voltmeter, plotters, oscilloscope / RELIAB: has autom check; operg ratio, 95% / sale, \$75,000 to \$650,000 / a completely integrated hybrid system taking full advantage of both analog and digital techniques / Electronic Associates, Inc., West Long Branch, N. J. / *C 65

Electronic Associates HYDAC 2400 / scientific, real-time and faster than real-time; a complete general-purpose hybrid digital-analog computing system / ACCUR: 12 signif figures / CAPAC: 35,000 digital words / PRGMG: autom by removable patch panel and servo-set attenuators; 25 min changeover / IN-OUT: patch panel, paper tape, keyboard, typewriter, digital voltmeter, plotters, oscilloscope / RELIAB: has autom check; operg ratio, 95% / sale, \$170,000 to \$1,000,000 / combines the accuracy of a GPIC with the speed of a GPAC to best perform complex simulations / Electronic Associates, Inc., West Long Branch, N. J. / *C 65

Electronic Associates TR-10 / scientific; real-time or not real-time / ACCUR: 3 signif figures / CAPAC: store 8 to 12 variables / LARGST INSTLN: 12 adders, 9 multipliers, 10 integrators, 9 arbitrary functions / dividers, function generators, coefficient pots, function storage, comparators also avail / PRGMG CHANGEOVER: 20 min. / IN-OUT: hand patch panel / RELIAB: has autom check; operg ratio, 99% / sale, \$4000 to \$11,000 / sold or rented, 200 / a solid state portable machine, 20 amplifiers / Electronic Associates, Inc., North Long Branch, N. J. / *C 64

Electronic Associates TR-20 / scientific; real-time or rep. operation / ACCUR: .01 to 0.1% / CAPAC: 20 amplifiers, 24 potentiometers, 18 integrators, 9 multipliers, 2 comparators, 6 diode function generators, 2 function switches / PRGMG CHANGEOVER: 20 min / IN-OUT: hand patch panel / RELIAB: has autom check and overload indicators / sale, \$4350 to \$12,000 / solid state portable machine / Electronic Associates, Inc., West Long Branch, N. J. / *C 65

Electronic Associates TR-48 / scientific; real-time or rep. operation / ACCUR: .01 to 0.1% / CAPAC: 58 amplifiers, 60 potentiometers, 40 integrators, 23 multipliers, 23 diode function generators, 29 limiters, 5 function switches / PRGMG CHANGEOVER: 20 min / IN-OUT: patch panel / RELIAB: has autom check and overload indicators / sale, \$7520 to \$40,000 / sold or rented / solid-state desk-top machine / Electronic Associates, Inc., West Long Branch, N. J. / *C 65

Gravity Analog Computer / for scientific problems and potential field studies / ACCUR: 3 signif figures / CAPAC: store 1 variable / LARGST INSTLN: 1 optical system / PRGMG CHANGEOVER: 3 to 5 min / IN-OUT: shaded drawings to scale / RELIAB: no autom check; operg ratio, 95% / sale, \$2750 / sold or rented, 15 / instrument uses opaque plate with light openings arranged according to the math of the problem. Problem is presented to instrument as drawing of varying opacity / Seismograph Service Corp., Box 1590, Tulsa, Okla. / *C 64

SD 20 Analog Computer / scientific, real-time / ACCUR: 4 signif figures / CAPAC: 40 pots / LARGST INSTLN: 8 adders, 6 multipliers, 8 integrators, full 20 amplifier capacity / PRGMG CHANGEOVER: 15 min. / IN-OUT: removable problem board / RELIAB: has autom check, 95% / sale, \$8000 to \$15,000 / on order, 4 / Systron-Donner Corp., 888 Galindo St., Concord, Calif. / *C 65

SD 40 Analog Computer / scientific, real-time, repetitive and iterative operations / ACCUR: 4 or 5 signif figures / CAPAC: 65 pots / LARGST INSTLN: 14 adders, 8 multipliers, 14 integrators, 42 operational amplifiers / PRGMG CHANGEOVER: less than 15 min. / IN-OUT: removable problem board / RELIAB: has autom check, 95% / sale, \$15,000 to \$30,000 / on order, 3 / Systron-Donner Corp., 888 Galindo St., Concord, Calif. / *C 65

SD 80 Analog Computer / scientific, real-time, repetitive and iterative operations / ACCUR: 4 signif figures / CAPAC: 125 pots / LARGST INSTLN: 20 adders, 14 multipliers, 28 integrators, 84 operational amplifiers / PRGMG CHANGEOVER: 25 min. / IN-OUT: removable problem board / RELIAB: autom check, 95% / sale, \$20,000 to \$50,000 / on order, 2 / Systron-Donner Corp., 888 Galindo St., Concord, Calif. / *C 65

Solartron 2475 Solid-state hybrid system / scientific; real-time / ACCUR: 5 signif figures / CAPAC: 42 analogue / LARGST INSTLN: 96 adders, 48 multipliers, 32 integrators, 10 track/store, full complement of digital logic on separate patch board, digital 4 channel time delay with core store / PRGMG CHANGEOVER: 10 min / IN-OUT: punched tape, line printer, digital computer / RELIAB: autom check, 97% / sale, \$90,000 to \$240,000 / on order, 3 / Solartron Electronic Group, Farmborough, Hants, England / *C 65

TDA-2 Electric Analog Computer, Potential Plane Simulator (field plotter) 2 and 3 dimensional representation / scientific, engineering / ACCUR: within 1% / CAPAC: any number / solves Laplace or Poisson equation, will handle any number of variables put into model being analyzed / average time to solve typical problem, including programming and solution, 6 hrs / IN-OUT: physical model is made and solution obtained directly from the model / RELIAB: autom check; operg ratio, 100% / sale, \$685 / Carlson Computer Co., 13911 Malvern St., Poway, Calif / *C 65

SURVEY OF SPECIAL PURPOSE COMPUTERS

Besides general purpose digital and analog computers, there are special purpose computers. Examples of them are:

- Travel reservations machines
- Simulators
- Automatic training devices
- Spectroscopic analysis equipment
- Process industry plant flow analyzers
- Geophysical seismic readers and profile plotters
- Digital differential analyzers
- Automatic bookkeeping machines
- Information retrieval systems
- Power company network analyzers
- Airborne digital computers
- Flight control computers
- Machine tool control systems
- Automatic elevator control systems
- Remote control telemetering systems
- Telemetered data reduction systems
- Automatic graph readers
- Air traffic control computers
- Early warning analysis and response systems
- Fire control computers
- Automobile traffic light controllers
- Automatic railway traffic controllers
- Automatic data sampling systems
- File-searching machines
- Inventory machines
- Automatic navigating systems
- Character reading and recognizing systems
- Telephone message accounting systems
- Test scoring machines
- Programmable electric typewriters

Following is a roster of organizations making special purpose computers and a description of their computers. The responses are reported in relation to the following reply form.

CHARACTERISTICS OF SIGNIFICANT SPECIAL PURPOSE COMPUTERS — REPLY SHEET

- Brief description of the types of special purpose computers and data processors that you currently market?

Type	Purpose	Price Range
a. _____	_____	_____
b. _____	_____	_____
c. _____	_____	_____
d. _____	_____	_____

(attach more paper if needed)

- Do you also supply general purpose computers and data processors?
- Any remarks?

4. Number of employees? _____
 5. Year established? _____
 This data supplied by _____ Title _____
 Organization _____
 Address _____

Any additions, corrections and comments are welcome.

Adage, Inc., 1079 Commonwealth Ave., Boston, Mass. 02215/ SPEC PUR: Mass Spectrum Digitizer, Model VR16-MSD, for automatic digital readout and recording of mass spectrometer data (\$17,470 to \$20,540); Ambilog Computers (using digitally controlled analog switches), for automatic gaging systems, high speed automatic color measurements for production color sorting, analysis of stress-

strain data (\$5000 to \$40,000); computer links, to permit simultaneous operation of digital and analog computers as a hybrid computer facility / GEN PUR: Ambilog 200, designed especially for on-line signal processing (\$75,000 to \$200,000) / S 175 / E 1957 / *C 65

Aircraft Armanents, Inc., Cockeysville, Md. 21030 / SPEC PUR: automatic integrated circuit tester, to test microcircuit modules (\$40,000 to \$50,000); automatic test set, to test electronic modules (\$100,000 to \$200,000); radar target simulator, to evaluate overall performance of airborne radar equipment (\$30,000 to \$40,000). All prices dependent upon requirements / GEN PUR: None / S 1000 / E 1950 / *C 65

Allegheny Instrument Co., Div. of Tectron Electronics, Inc., 1091 Wills Mt., Cumberland, Md. / SPEC PUR: Type K ballistic computer, for measurement of rocket motor force and pressure parameters (\$15,000 to \$100,000); Autoal-Automatic Transducer Calibrator, for dynamic calibration of strain gage pressure cells (\$50,000 to \$200,000); high rate tester, for measurement of tensile and compressive properties of solid propellants; K-7 error computer, for parameter resistances on strain bridge circuitry; Robotics decodes and displays / S 200 / E 1952 / *C 64

Bailey Meter Co., 29801 Euclid Ave., Wickliffe, Ohio 44092 / SPEC PUR: Bailey 756 system, for automation of power plants and industrial processes / GEN PUR: None / S 1500 / E 1916 / *C 64

Carlson Computer Co., 13911 Malvern Ave., Poway, Calif. / SPEC PUR: TDA-2 field plotter will analyze 2 and 3 dimensional field problems of the Laplace or Poisson type equation, i.e. temperature distribution analysis, stress analysis (including solution of some problems impossible to solve on general purpose analog or digital computers), fluid flow, magnetic fields, electrostatic fields, electronic amplifier design (total price, \$685) / GEN PUR: None / S 2 / E 1960 / *C 65

Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. / SPEC PUR: Coordinate Conversion Computer, positions parabolic antennas to track orbiting space vehicles; Incremental Digital Computer, computes real-time correction data for shipborne stabilized platform; Airborne Coordinate Rotation Computer, enables an airborne telescope tracking system to photograph missiles during re-entry; SPEC, teaches computer logic and programming techniques; Selector-Sorter System for Information Retrieval, performs logic and arithmetic operations concerned with searching and sorting in graphic information system; Space Data Conditioning System, digitizes and reformats data for telemetry to earth; Translator, translates magnetic tape format from one language to another; Random Access Business Computer, updates accounting system in real-time; Digital Chromatograph Analyzer, controls operation of a vapor chromatograph; 6B4, teaches fundamentals of digital computer organization, programming and operation; 6F2, large-scale digital computer maintenance trainer; 6F4, large-scale digital trainer for teaching computer operation and programming, computer logic demonstrator for classroom instruction in digital logic fundamentals and techniques / GEN PUR: DDP-24, a real-time, scientific computer with modular construction; expandability features; DDP-24 VM, a specially packaged DDP-24 for installation in moving vans; DDP-224, real-time scientific computer with modular construction, expandable features and multi-processor capabilities / S 1200 / E 1953 / *C 65

Connecticut Technical Corp., 3000 Main St., Hartford, Conn. / SPEC PUR: Typewriters - Transmuting & Output Printing, for tape punching, communications, programmable electric typewriters, computer application (\$950 to \$5000) / GEN PUR: None / S 20 / E 1960 / *C 64

Delco Radio, Div. of General Motors Corp., 700 E. Firmin St., Kokomo, Ind. / SPEC PUR: specialized

digital systems: data acquisition systems, building supervisory monitors, program controllers, process controls, plant protection monitors and annunciators, time verification systems, data communication system monitors, digital clocks (\$5000 to \$550,000) / GEN PUR: None / S 6000 / E 1936 / *C 64

Dian Laboratories, Inc., 611 Broadway, New York 12, N. Y. / SPEC PUR: reactor simulator, for study of reactor kinetics; submarine dynamics simulator and flight simulator, for training of personnel; process analyzer, for automatic control of plants; navigating system, for automatic tracking of missiles; (prices on request) / S 12 / E 1955 / *C 65

Digital Electronics Inc., 2200 Shames Drive, Westbury, N. Y. / SPEC PUR: automatic test key proof evaluator, inter bank communications encoding device (\$7000 to \$10,000); visual to magnet tape data converter, translates visual data for input to IBM type computer (\$40,000); data converter, analog input to IBM and other compatible magnetic tape (\$15,000 to \$30,000); data communications terminal, enter, store, and forward digital data over telephone lines (\$2000 to \$10,000); training computer, FORTRAN training (\$15,000) / GEN PUR: yes / S 50 / E 1961 / *C 65

Fischer and Porter Co., Warminster, Pa. / SPEC PUR: digital data systems for logging, scanning, multiple pressure readout, digital computer control / GEN PUR: yes / S 1300 / E 1937 / *C 64

Honeywell, Inc., Queen & S. Bailey Sts., Pottstown, Pa. / SPEC PUR: mass flow computer for flow measurement of gases reduced to standard conditions (\$2000 to \$5000); weight of coating for determining coating material weight per unit area; power demand, used as electrical load limiter; special purpose analog computer, custom circuitry describing mathematical equations / GEN PUR: yes, digital for process control / S 350 / E 1860 / *C 65

Leeds and Northrop Co., 4901 Stenton Ave., Philadelphia 44, Pa. / SPEC PUR: automatic economic dispatch, for electric power distribution (\$200,000 to \$300,000); performance computation and data logging, for steam power plants (\$175,000 to \$275,000); efficiency control and data logging, for hydro-stations (\$250,000 to \$350,000); automatic control computer for oxygen steel making process (\$200,000 to \$300,000) / GEN PUR: analog and digital data handling and computing systems available / S 3000 / E 1899 / *C 65

LFE Electronics, a Division of Laboratory for Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / SPEC PUR: SM-3 Display System, for display of transaction data, stocks, reservations, inventory status, schedules, equipment status, etc. (\$15,000 to \$60,000); RD-900 Random Access Storage and Display System, for indexing, situational and tabular displays (\$100,000 up); SM-IIA Data Storage and Display System, for high-speed digital display of up to 500,000 characters per second in sophisticated military command and control systems / automatic bookkeeping machines, information retrieval systems, airborne digital computers, flight control computers, machine tool control systems, air traffic control computers, fire control computers, automobile traffic light controllers, automatic data sampling systems, automatic navigating systems / GEN PUR: yes / S 2000 / E 1946 / *C 64

Otis Elevator Co., Defense and Industrial Div., 35 Ryerson St., Brooklyn 5, N. Y. / SPEC PUR: adaptive tracking simulator, for teaching tracking skills (\$25,000) / GEN PUR: None / S 30,000 / E 1853 / *C 65

Pacific Data Systems, Inc., 1058 E. 1st St., Santa Ana, Calif. / SPEC PUR: None / GEN PUR: PIS 1068, control computer (\$15,000); PIS 1020,

(Please turn to page 86)

OVER 800 AREAS OF APPLICATION OF COMPUTERS

I. Business and Manufacturing in General

1. Office

Absenteeism reports
 Accounts receivable; posting, rebilling
 Advertising effectiveness: analysis, data handling
 Billing and invoicing
 Budgeting
 Capital investment analysis
 Catalog indexing
 Charitable contributions
 Consumer credit verification
 Correspondence: personalized letters to delinquent accounts
 Cost analysis
 Data gathering from multiple locations
 Depreciation calculations
 Directory advertising calculations
 Dispatching
 Expenses: analysis, prompt reports
 File maintenance
 Filing operations, single and multiple
 Fixed assets accounting
 Forecasting
 Information retrieval
 Inventory control
 Linear programming
 Mailing list operations
 Management games
 Management reports using the exception principle and others
 Management simulation
 Management statistics analysis
 Management strategy analysis
 Market research: studies
 Operations research applications
 Optical character recognition
 Order acknowledgment
 Order analysis
 Order processing
 Overhead cost allocation
 Overtime reports
 Payroll changes for general increases
 Payroll computation and payment
 Pension reporting and updating
 PERT charts: automatic drawing and up-dating
 Performance evaluation
 Plastic plates: emboss, code-punch
 Price analysis
 Property accounting
 Production forecasting
 Punched tape: automatic production and reading
 Purchase order writing
 Questionnaire analysis
 Repair and maintenance: records, scheduling, control
 Retirement fund: records, valuation
 Royalty processing
 Salary advances
 Sales analysis
 Sales area distribution
 Sales forecasting
 Sales quota calculations
 Savings bond deductions
 Scheduling for traveling salesmen
 Simulation of inventory systems
 Systems: analysis, synthesis, evaluation
 Taxes, calculation
 Transportation optimization
 Vacation scheduling
 Voucher distribution
 Wage and salary analysis
 Wage and salary tax computations
 Warehousing and stocking: records, analysis
 Work-in-process records

2. Plant and Production

Assembly line balancing
 Cartons: automatic manufacture and packaging
 Construction job scheduling
 Dispatching control
 Factory operation simulation
 Labor utilization: schedules, analysis
 Lathe operations: automatic control
 Machine loading schedules
 Machine tools: numerical control

Machine tools: control for automatic reproduction of complete parts
 Machine utilization analysis
 Materials and parts: requirements, allocations, scheduling, control
 Operational planning
 Parts catalogs: construction, changes, control
 Procurement
 Production information analysis
 Production operations: determination of optimum order
 Production scheduling
 Quality control
 Route accounting (Bakeries, Bottling plants, Dairies, etc.)
 Routing cable and electrical wiring
 Shipping control
 Shop scheduling, optimum
 Traffic control

II. Business — Specific Fields

1. Advertising

Consumer audiences: analysis
 Direct mail advertising addressing
 Effectiveness analysis
 Expenditures: analysis

2. Banking

Accrual settlement
 Bond ownership and redemption records
 Check certification
 Check processing accounting
 Christmas clubs
 Corporate trust accounting
 Demand deposit accounting
 Deposit processing
 Factoring accounts: processing
 Float analysis
 Fund accounting
 Installment loan accounting
 Interest calculation
 Inter-office records: transmission, filing, recall
 Loan accounting, records, and analysis
 Money orders
 Mortgage loan accounting
 Payroll accounting
 Personal trust accounting
 Ready credit
 Real estate loan accounting
 Savings and loan postings
 Savings Club deposit accounting
 Signature verification
 Stockholder records
 Trust accounting
 Vacation clubs
 Withdrawal processing

3. Educational and Institutional

Alumni records: maintenance, analysis
 College board examinations: scoring, interpreting
 Education: forecasting administration trends and budgeting
 Educational test results: compilation
 Elementary reading instruction
 Honor rolls: compilation
 Hospital menu planning
 Hospital outpatient traffic schedules
 Hospital patient billing
 Hospital patient records: collation
 Identifying "underachieving" bright students
 Laboratory experiments: automatic control
 Language teaching
 Personality test analysis for counseling
 Report cards: preparation, issuance
 Revenue and expense accounting
 Scheduling of courses, classes, sections, instructors, rooms
 Supply accounting
 Student records: interpretation, processing
 Teacher credential issuance
 Teacher standards evaluation
 Teaching
 Test grading
 Training mammals: preparation, maintenance

4. Finance

Amortization
 Bond evaluation
 Clearing house reports
 Commodity trading: customer confirmation
 Dividend calculation
 Equipment trust accounting
 Fund analysis
 Margin accounts: commodities, securities
 Monthly customer statements
 Portfolio evaluation
 Stock analysis
 Stock market data transmission
 Stock price index computed hourly, etc.
 Stock tabulations
 Stock transfers

5. Government

Accident records: analysis for safety programs
 Air mail extracting
 Appropriation accounting
 Budgetary control
 Census analysis
 Criminal identification
 Draft: investigation, analysis
 Economy: simulation of sections
 Election return analysis
 Excise tax bill preparation
 Fingerprint processing and searching
 Foreign policy analysis
 Highway toll and service area revenues processing
 Highways: maximum speed determination
 Income tax accounting
 Mail sorting and routing
 Motor vehicle excise tax billing
 Motor vehicles: registration
 New drug application processing
 Parts cataloging
 Political district reapportionment
 Property right-of-way analysis
 Property value analysis
 Public Health: radiation, water purification, air pollution studies
 Radio station licenses: issuance
 Rubbish disposal planning, route analysis
 Sales tax records, analysis
 Statistical analysis
 Supplies: inventory and control
 Traffic interchanges: designs of angles and grades
 Traffic light service control
 Traffic signal regulation
 Traffic simulation
 Urban renewal planning
 Water and sewer rates revenue

6. Insurance

Actuarial research
 Agency accounting
 Agents' commission calculations
 Asset share calculations
 Automobile coding
 Claims
 Commutation column calculations
 Dividend formula analysis
 Dividend scale calculations
 Gross premium calculations
 Group annuity calculations
 Group insurance commissions
 Mean reserve calculations
 Mortality tables
 Net premium calculations
 Non-forfeiture value calculations
 Policy issuance
 Policy reserve calculations
 Premium billing
 Premium and loss distribution accounting
 Renewal rating calculations
 Valuation calculations

7. Law

Crime: analysis, prediction, detection
 Laws: analysis, consistency studies
 Legal research
 Patent searching
 Pre-testing of proposed legislation

Application of Computers

- Reconstruction of decisions (using statistical methods) re: taxes, trust funds, public utility rates
 Traffic violations: recording, accounting, analysis
8. Libraries
 Card catalogs: maintenance and updating
 Information retrieval
 Records and control
9. Magazine and Periodical Publishing
 Classified advertisement preparation
 Mailing list maintenance
 Mailing lists: geographic analysis
 Mailing lists: high-speed label printer
 Newspaper printing: long distance transmission of linotypesetting
 Newspaper printing: high-speed linotype setting by punched paper tape and computer
 Printing: automatic line justification
 Printing: automatic hyphenation of words
 Renewals: analysis, promotion
 Subscription fulfillment
10. Military
 Air Force engines and parts: regulation of supply
 Distressed ships: dispatching aid
 Plotting location of all ships and planes in operation
 Stock priority items: speedy shipment
11. Oil Industry
 Absorber calculations
 Aerial surveys and exploration: analyses
 Bulk stations: wholesale sales, billing, accounting
 Credit card accounting
 Crude oil: analysis of properties, evaluation, processing
 Depletion accounting
 Distillation tower design
 Equilibrium flash calculation
 Flow: control
 Fuel deliveries: degree-day accounting
 Gasoline blending
 Gravity drainage analysis
 Gravometric analysis
 Heat exchange calculations
 Heat and material balances
 Instrument scanning
 Lease and well expenses and investments: records and analysis
 Map construction
 Mass spectrometer data: reduction, analysis
 Material and energy balances
 Off-normal variables alarm
 Off-shore installations: studies of design variations
 Oil field analysis:
 Correlations of data from different drill holes;
 Correlation of data from seismic tests;
 Estimated amount and direction of flow of fluids through porous rocks
 Oil pipe-line system: automatic control and operation
 Oil purchase accounting
 Operating records: logging
 Petroleum reserves: calculations
 Physical behavior of complex mixtures: predictions
 Pipe stress analysis
 Plate-to-plate distillation calculations
 Product mix for oil refineries: determination
 Refinery and gas plant components: design, operation
 Refinery shutdown and maintenance: scheduling calculations
 Refinery simulation
 Remote control of crude oil production
 Secondary recovery: analysis
 Seismic data reduction
 Well logs: corrections
 Wells and fields: prorating analysis
12. Public Utilities
 Boiler control
 Circuits and lines: mileage analysis
 Compressor performance
 Dispatch control
 Electric distribution networks
 Electrical power control
 Equipment: attrition and life expectancy
 Gas distribution networks
 Gas well probation
 Load duration
 Load flows
 Meter reading
 Natural gas measurement
 Pipe line design
 Power distribution calculations
 Power Plants: stability of control
 Power production scheduling
 Pressure vessel flange designs: calculating, listing
 Rate determination
 Repair calls: dispatching, scheduling
 Sag-tension studies
 Steam turbines: output, control
- Transformer thermal rating
 Transmission line design and losses
 Water reservoir management
 Water supply evaluation
13. Sports
 Airplane racing: final scoring, specialized category winners, up-to-the-minute standings
 Bridge tournaments: shuffling and dealing
 Football: judging contest entries
 Indoor golf: measurement of shots
 Olympic Games: registration, scoring, winners, up-to-the-minute standings
 Racing: determination of prices paid on winning horses
 Scoring: bowling games
14. Steel Industry
 Billet cut-up line: control
 Power control: optimization
 Smelting process: blast furnace stockhouse control
 Steel mill simulation
 Steel sample analysis
15. Telephone Industry
 Assigning dial equipment
 Automatic telephone exchange for private lines
 Coin telephone: collecting, accounting
 Customer payments
 Local service charge billing
 Long-distance charge billing
 Long-distance transmission of data
 Message register billing
 Speech waves: generation, analysis
 Toll ticket billing
 Updating "yellow pages" directories
 Written message telephoning
16. Textile Industry
 Fabric quality control
 Material availability evaluation
 Monitoring clothing production
 Production planning
 Sales analysis
 Style forecasting
 Style reports
17. Transportation
 Aircraft loading requirements charts
 Air traffic control
 Air traffic prediction plots
 Aircraft maintenance scheduling
 Airline fare computation
 Airline passenger space control
 Automatic toll registration
 Bus scheduling
 Cloud-height-data analyzer for airports
 Collision warning systems
 Crew training
 Elevators: automatic control
 Flight plan issuance
 Flight simulation
 Motor freight records: analysis
 Navigating systems
 Parking garages: automatic control
 Pilot training
 Position plotting of airplanes
 Preventive maintenance scheduling
 Railroad car identification and recording
 Railroad fares: collection, allocation
 Railroad freight cars: accounting, allocation, distribution, control
 Railroad inventory accounting
 Rail traffic control, centralized
 Reservation systems
 Satellite orbit calculations
 Ship arrival forecasting
 Ship traffic: statistical analysis
 Subways: automatic control
 Terminal operation simulation
 Ticket billing
 Ticket validation
 Trains: automatic control
 Travel reservations
18. Miscellaneous
 Agriculture: crop shifting indications
 Animated film production
 Building construction schedules
 Cement making: proportioning and control of raw materials
 Construction: estimates of electrical work costs
 Farm management simulation
 Forestry: planting and cutting trees
 Graphing of scientific data
 Harbor and port facilities: planning, evaluation, filling shallows calculations
 Hospitals: records, billing, inventory, control
 Hotels: guest charge accounting and billing
 Hotels: registration, reservations
 Indexes: preparation
 Inventions and patents: filing, retrieval
 Judgment of commercial contest entries
 Literature searching: automatic location of scientific articles
 Map compilation and production
- Meat packaging: mixture, optimization
 Motion picture distribution
 Motion pictures: producers settlement statements
 Music: statistical analysis of style
 Personnel selection
 Real estate: building appraisal and valuation
 Real estate: information retrieval system
 Restaurant ordering
 Specialized personnel-searching
 Television stations: real-time program switching operations
 Theatre: scheduling, planning productions
 Vending machine programming
- III. Science and Engineering
1. Aeronautics and Space Engineering
 Aerodynamical formulas: evaluation
 Airborne jet-engines: control, management
 Aircraft safety: control of cargo weights and fuel supply
 Airframe stress analysis
 Astronaut training
 Atmospheric re-entry studies
 Automatic checkout for missiles and space vehicle aircraft
 Boost cut-off determination
 Catastrophe simulation
 Contour maps presentation
 Critical speed problems
 Curve fitting
 Engine design for propelling space vehicles
 Factor analysis
 Flight control for missiles and space vehicles
 Flight simulation
 Flight test data reduction
 Flight training devices
 Flutter analysis
 Ground controlled approach: programming
 Guidance and flight control studies
 Guidance sensitivity problems
 Guidance systems design
 Gyroscopic calculations
 Heat transfer analysis
 Helicopter piloting studies
 High-altitude balloon flights
 Horizon scanning
 Hypersonic air data analysis
 Inertial guidance for missiles and space vehicles
 Interplanetary space probes control
 Jet aircraft refueling
 Lunar probes control
 Moon flight simulation
 Navigation training devices
 Orbit injection
 Parachute recovery systems
 Radar and telemetry antennas: positioning and pointing of
 Re-entry vehicle development
 Rocket flight simulation
 Rocket motor propellants: analysis, control during firing
 Rocket nozzle development for space boosters
 Satellite photography rectification
 Satellite research
 Satellite tracking
 Self-adjusting pilot
 Simulation of physiological reactions of astronauts
 Simulation of moon landings
 Space platform "anchorage"
 Spaceship positions: precise determination
 Static rocket engine checkout
 Suspension reaction for airborne stores
 Theodolite data reduction
 Turbo jet engine testing
 Vibration analysis
 Wind tunnel data reduction
2. Biology
 Animals: behavior models
 DNA molecular code analysis
 Hybrid optimization
 Livestock breeding analysis
 Livestock feeding control
 Livestock-feed ingredient-mix; optimization
 Molecules: determination of position of atoms
 Species characteristics: correlation analysis
 Species varieties: automatic classification
3. Chemical Engineering and Chemistry
 Bound chemicals: simulation of reactions between
 Chemical compounds: structure studies
 Chemical kinetics: problem solving
 Continuous-flow stirred-tank reactor: simulation and control
 Crystal structure factors
 Distillation processes: determination of starting times, etc.
 Equilibrium equations: studies
 Fertilizer-mix: optimization
 Flash vapor calculations
 Gas line calculation
 Hydrocarbons: structure analysis
 Ion exchange column: performance appraisal
 Mass spectrometer analysis
 Material flow to batch chemical plants: program simulation

Application of Computers

- Meteorite pattern charting
 - Organic compounds: classification
 - Organic compounds: file searching
 - Permeability, relative: computations
 - Process control
 - Process simulation
 - Reaction analysis
 - Spectrum analysis
 - X-ray crystallography analysis
4. Civil Engineering
- Abutment design
 - Adjustment of level net
 - Area calculation by coordinates and by other methods
 - Azimuth calculations
 - Beam design
 - Bridge design
 - Concrete design, prestressed and reinforced
 - Construction tie computation
 - Curve, arc, line computations and intersections
 - Cut and fill calculations
 - Cylindrical shell analysis
 - Dam design
 - Distance, station and offset, to a point
 - Earthwork computations
 - Elevation calculations
 - Embankment stability design
 - Flood control systems: analysis, synthesis
 - Freeway assignment
 - Freezing and thawing of soils
 - Grade sheet processing
 - Highway profiles
 - Highways: determination of future needs
 - Levee design
 - Monthly equipment summary
 - Oceanographic studies: current, temperature, etc.
 - Pavement design
 - Photogrammetric data reduction
 - Pier design
 - Pile load computation
 - Pipe design
 - Pollution studies
 - Pressure distribution in layered media
 - Ramp and interchange design and calculations
 - Retrouting traffic during emergency conditions
 - Reservoir design
 - Retaining wall design
 - Roadway elevations
 - Route optimization
 - Sewage disposal studies
 - Shell structure design
 - Slab volumes and other calculations
 - Soil test analysis
 - Steel column design
 - Stress analysis
 - Survey closure: control
 - Three-point problem solutions
 - Traffic density: pictorial simulation
 - Traffic light maintenance: control
 - Traffic simulation
 - Transformation of coordinates
 - Traverse adjustment
 - Traverse closure
 - Triangulation
 - Vertical alignment
 - Water distribution systems: analysis, optimization
5. Economics
- Household simulation
 - Industry: analysis, simulation of competition
 - Input-output analysis
6. Electrical Engineering
- Antenna design
 - Cathode tube design
 - Circuit analysis and design
 - Circuit assembly: control
 - Component design
 - Computer logic circuits: design
 - Computer wiring: automatic design and control
 - Electrical analysis of circuit types
 - Electromagnetic wave propagation in various media
 - Feedback system, single loop, finding the root locus
 - Filter analysis
 - Generator calculations
 - Logical networks: design
 - Motor calculations
 - Radar echoes
 - Radio interference
 - Systems evaluation
 - Transformer design
 - Transient performance
 - Traveling-wave-tube calculations
 - Triode design
7. Hydraulic Engineering
- Backwater profiles
 - Compressible and incompressible flow analysis
 - Culverts: analysis, geometry
 - Drainage systems design
 - Flood and flow forecasting
 - Flood control calculations
 - Flood frequency analysis
- Flood routing
 - Flow in open channels
 - Ground water: flow of
 - Hydraulic circuits and components: design
 - Hydraulic network analysis
 - Hydroelectric dam design
 - Multi-purpose water-reservoir system management
 - Pipe stresses
 - Reservoir aggradation
 - Reservoir area computations
 - Sewer design
 - Shock-wave effect analysis
 - Surge-tank analysis
 - Turbine speed regulation
 - Unit hydrographs: determination
 - Water hammer analysis
 - Wave motion analysis
 - Wind-wave analysis
8. Linguistics
- Concordances: construction
 - Speech analysis
 - Syntax pattern analysis
 - Translation from one language to another
 - Word frequency analysis
9. Marine Engineering
- Compartment pressures in emergency situations
 - Compartment ventilation calculations
 - Force analysis of space structures
 - Form calculations
 - Fuel rate analysis
 - Gyroscopic-compasses sea-test: data reduction
 - Hydrostatic functions
 - Plate and angle combinations: calculations
 - Ship displacement calculations
 - Ship maneuvering calculations and control
 - Ship models: extrapolation of observations
 - Ship waterline characteristics
 - Shock isolator calculations
 - Submarine hulls: Bon Jean calculations
 - Submerged cables: calculation of transient motion
 - Turbine reduction gear system: vibration analysis
 - Ullage tables
10. Mathematics
- Bessel functions
 - Boolean algebra calculations
 - Calculus of variations
 - Constants, important: evaluation
 - Convolution
 - Coordinate rotation and translation
 - Curve fitting
 - Determinant evaluation
 - Differentiation: numeric, symbolic
 - Difference equations solution
 - Differential equations solution
 - Differentiating symbolically
 - Eigenvalues and eigenvectors: calculations
 - Fourier analysis and synthesis
 - Function tables: computation
 - Integral equations
 - Integration: numerical
 - Integration of functions
 - Intelligence: simulation of human thinking processes
 - Lagrange interpolation
 - Least squares fit to inconsistent equations
 - Logarithms
 - Matrix inversion
 - Matrix multiplication
 - Multi-dimensional partial differential equations
 - Multiple integrals
 - Numerical base conversion
 - Partial differential equations
 - Polynomial roots
 - Proportional gain
 - Reciprocals
 - Simulation of mathematical equations and solutions
 - Simultaneous linear equations
 - Simultaneous non-linear equations
 - Simultaneous ordinary differential equations
 - Square roots
 - Stochastic difference equations
 - Table computation (evaluation of functions)
11. Mechanical Engineering
- Air conditioning calculations
 - Arch analysis and design
 - Building frames for reinforced concrete construction: Hardy Cross analysis
 - Cam design
 - Casing design
 - Combustion computations
 - Composite stringers design
 - Compressors: horsepower calculations
 - Conveyor geometry
 - Crankshaft vibration analysis
 - Engine and piston computations
 - Flange cross sections, table of properties
 - Foundation settling: effects
 - Heat flow
 - Heat loss of rooms and buildings
 - Machine vibration analysis
 - Moments of inertia
- Orifice factors: computations
 - Pipe-stress analysis
 - Piping systems, flexibility analysis
 - Pressure vessel computations
 - Propeller pitch correction
 - Reinforced concrete: bending, stress, etc.
 - Rigid body vibrations: analysis
 - Rigid frames: moment distribution analysis
 - Shell analysis: stress distribution
 - Temperature stresses
 - Throttling device computation
 - Torsional systems, bearing loads, and engine forces: Holzer analysis
 - Truss analysis: stress and deflections
 - Vehicle checkout calculations
 - Vibration analysis
12. Medicine and Physiology
- Ambulatory clinic records control
 - Anesthesia control
 - Arterial physiology research
 - Alveolar gas parameter computation
 - Ballistocardiogram analysis
 - Biologic rhythm studies
 - Biological specimens: electronic magnification
 - Blood chemistry determination
 - Blood grouping and typing
 - Blood volume: calculation of total amount in circulation and loss
 - Bone crystal structures: calculations
 - Cancer: diagnosis and treatment
 - Cancerous cell growth simulation
 - Cardiovascular physiology studies
 - Cerebral slow waves: correlation and spectral analyses
 - Cervical and vaginal smear screening
 - Clinical data: statistical analysis
 - Compartmental rate exchange parameters
 - Controlled artificial hand
 - Coronary artery disease prediction
 - Counting bacteria in photographs
 - Counting blood cells in photographs
 - Cytophotometric analysis
 - Dermatoglyphic diagnosis
 - Diagnostic possibilities: listing, suggestions, comments
 - Diagnosis of disease
 - Eating habit pattern studies
 - Ecological system simulation
 - Effect of drugs on human body
 - Electrocardiogram integration and analysis
 - Electroencephalogram analysis
 - Enzyme kinetic representations
 - Evoked brain-wave response analysis
 - Eye muscle studies
 - Fatigue research
 - Fetal heart beat recording
 - Gastrointestinal tract pressures: detection and recording
 - Gene frequency calculation
 - General anesthetic simulation
 - Growth and physique studies
 - Heartbeat analysis
 - Hearing loss: testing analysis
 - Human brain simulation
 - Human ear simulation for speech analysis
 - Human retinal and brain responses to light simulation
 - Hypertensive pressure computations
 - Intestinal absorption rate measurement
 - Iodine metabolism computation
 - Isotope tracer studies: analysis
 - Location of pain-transmitting area in brain
 - Medical data: telemetering and analysis
 - Medical literature: indexing, analysis
 - Medical tests: analysis
 - Medication administration schedules
 - Metabolic control involving chemical feedback
 - Motor system coordination testing
 - Neuroelectric data processing
 - Neuron signal conduction theory
 - Nutritional intake analysis
 - Ophthalmologic disorders simulation
 - Optimum therapeutic procedure determination
 - Patient history recording
 - Pediatric psychiatric diagnosis
 - Pharmacological research: patient simulation
 - Phonocardiogram analysis
 - Physiology of the eye: analysis
 - Post mortem examination analysis
 - Probability in medical diagnosis
 - Psychiatric test scoring
 - Pulse analysis
 - Pupil servomechanism analysis
 - Radiation therapy
 - Red cell volume: calculation
 - Renal function simulation
 - Shock therapy: monitoring of patient condition
 - Speech research
 - Symptom-disease complexes
 - Temperature of man: simulation
 - Toxicity data analysis
 - Vessel wall properties and hemodynamic studies
 - Whole blood supply and distribution control
 - X-ray analysis
13. Metallurgy
- Alloy calculations
 - Crystal structure computations

Application of Computers

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| <p>14. Meteorology</p> <p style="margin-left: 20px;">Atmospheric turbulence and diffusion: simulation</p> <p style="margin-left: 20px;">Cloud picture processing</p> <p style="margin-left: 20px;">Flood control</p> <p style="margin-left: 20px;">Global weather simulation</p> <p style="margin-left: 20px;">Hurricane forecasting</p> <p style="margin-left: 20px;">Ionospheric mapping</p> <p style="margin-left: 20px;">Meteorite pattern charting</p> <p style="margin-left: 20px;">Short-range storm observation and forecasting</p> <p style="margin-left: 20px;">Weather forecasting</p> <p style="margin-left: 20px;">Weather research: gridding of picture data</p> <p style="margin-left: 20px;">Weather satellites: real-time assessment</p> <p>15. Military Engineering</p> <p style="margin-left: 20px;">Ballistic trajectories</p> <p style="margin-left: 20px;">Bomb impact analysis</p> <p style="margin-left: 20px;">Bombing tables</p> <p style="margin-left: 20px;">City evacuation studies</p> <p style="margin-left: 20px;">Command and control: systems, displays</p> <p style="margin-left: 20px;">Fire control</p> <p style="margin-left: 20px;">Firing tables</p> <p style="margin-left: 20px;">Missiles: analysis, calculations:</p> <p style="margin-left: 40px;">Controlling</p> <p style="margin-left: 40px;">Designing</p> <p style="margin-left: 40px;">Drafting structural parts</p> <p style="margin-left: 40px;">Directing</p> <p style="margin-left: 40px;">Intercepting</p> <p style="margin-left: 40px;">Launching</p> <p style="margin-left: 40px;">Predicting impact points</p> <p style="margin-left: 40px;">Recovering</p> <p style="margin-left: 20px;">Pursuit and combat: analysis, control</p> <p style="margin-left: 20px;">Radar defense systems: analysis, calculations</p> <p style="margin-left: 20px;">Reconnaissance data: analysis and interpretation</p> <p style="margin-left: 20px;">Rocket trajectories</p> <p style="margin-left: 20px;">Strategy analysis and optimization</p> <p style="margin-left: 20px;">Submarine battles: simulation for crew training</p> <p style="margin-left: 20px;">Trajectory calculations</p> <p style="margin-left: 20px;">Weapons control</p> <p style="margin-left: 20px;">Weapons systems analysis and evaluation</p> <p>16. Naval Engineering (see also Marine Engineering)</p> <p style="margin-left: 20px;">Anti-submarine warfare simulation</p> <p style="margin-left: 20px;">Cavitation studies</p> | <p style="margin-left: 20px;">Component attrition rate analysis</p> <p style="margin-left: 20px;">Decompression tables</p> <p style="margin-left: 20px;">Minesweeper vessels navigation</p> <p style="margin-left: 20px;">Submerged flow: potential patterns</p> <p style="margin-left: 20px;">Underwater acoustic experiments</p> <p>17. Nuclear Engineering</p> <p style="margin-left: 20px;">Engines: tests, data control</p> <p style="margin-left: 20px;">Multigroup criticality calculations</p> <p style="margin-left: 20px;">Neutron diffraction</p> <p style="margin-left: 20px;">Neutron flux distribution</p> <p style="margin-left: 20px;">Neutron transport</p> <p style="margin-left: 20px;">Power plant monitoring</p> <p style="margin-left: 20px;">Radioactive fallout: analysis, prediction</p> <p style="margin-left: 20px;">Radioactive level calculations</p> <p style="margin-left: 20px;">Reactor design and evaluation</p> <p style="margin-left: 20px;">Reactor simulators</p> <p>18. Photography</p> <p style="margin-left: 20px;">Color analysis</p> <p style="margin-left: 20px;">Color separation negatives: scanner for automatic production</p> <p style="margin-left: 20px;">Lens coating calculations</p> <p style="margin-left: 20px;">Optical ray tracing</p> <p style="margin-left: 20px;">Optical system design</p> <p>19. Physics</p> <p style="margin-left: 20px;">Atom-human communications system</p> <p style="margin-left: 20px;">Cosmic radiation: statistical analysis</p> <p style="margin-left: 20px;">Crystallography analysis</p> <p style="margin-left: 20px;">Elastic particle collision studies</p> <p style="margin-left: 20px;">Electron distributions</p> <p style="margin-left: 20px;">Electron trajectories</p> <p style="margin-left: 20px;">Gamma ray particles: multiparameter analysis</p> <p style="margin-left: 20px;">Interatomic bond lengths and angles</p> <p style="margin-left: 20px;">Shock waves analysis</p> <p style="margin-left: 20px;">Thermodynamic equations</p> <p>20. Psychology</p> <p style="margin-left: 20px;">Data reduction and analysis</p> <p style="margin-left: 20px;">Cognitive processes simulation</p> <p style="margin-left: 20px;">Canonical analysis</p> <p style="margin-left: 20px;">Factor analytic studies</p> <p style="margin-left: 20px;">Human language behavior: analysis, synthesis</p> | <p style="margin-left: 20px;">Learning and behavior studies</p> <p style="margin-left: 20px;">Multiple regressive models for prediction</p> <p style="margin-left: 20px;">Neural behavior simulation</p> <p style="margin-left: 20px;">Pattern analytic methods: agreement analysis, configurational analysis, multiple scalogram analysis, profile analysis</p> <p style="margin-left: 20px;">Perception studies</p> <p style="margin-left: 20px;">Psychological tests: analysis</p> <p style="margin-left: 20px;">Space flights: study of behavior</p> <p style="margin-left: 20px;">Time and motion studies: data collection and analysis</p> <p>21. Sociology</p> <p style="margin-left: 20px;">Data reduction and analysis</p> <p style="margin-left: 20px;">Social behavior simulation</p> <p style="margin-left: 20px;">Social processes: hypotheses testing</p> <p style="margin-left: 20px;">Sociometric data: analysis</p> <p style="margin-left: 20px;">Voting behavior simulation</p> <p>22. Statistics</p> <p style="margin-left: 20px;">Bernoulli probability</p> <p style="margin-left: 20px;">Beta function calculation</p> <p style="margin-left: 20px;">Binomial coefficient calculations</p> <p style="margin-left: 20px;">Chi squared function calculations</p> <p style="margin-left: 20px;">Complex error function and integral</p> <p style="margin-left: 20px;">Correlation</p> <p style="margin-left: 20px;">Covariance</p> <p style="margin-left: 20px;">F-test</p> <p style="margin-left: 20px;">Factor analysis</p> <p style="margin-left: 20px;">Forecasting</p> <p style="margin-left: 20px;">Gamma function</p> <p style="margin-left: 20px;">Gaussian probability</p> <p style="margin-left: 20px;">Hypergeometric probability</p> <p style="margin-left: 20px;">Least-square-polynomial fitting</p> <p style="margin-left: 20px;">Maximum likelihood functions</p> <p style="margin-left: 20px;">Moments</p> <p style="margin-left: 20px;">Moving averages</p> <p style="margin-left: 20px;">Multiple regression</p> <p style="margin-left: 20px;">Non-linear estimation</p> <p style="margin-left: 20px;">Period search</p> <p style="margin-left: 20px;">Poisson probability</p> <p style="margin-left: 20px;">Time series analysis and adjustment</p> <p style="margin-left: 20px;">T-test I (sample mean vs. population mean)</p> <p style="margin-left: 20px;">T-test II (difference between two means)</p> <p style="margin-left: 20px;">Variance: analysis</p> |
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- END -

WANTED FOR CASH USED I.B.M. COMPUTER SYSTEMS AND PERIPHERALS

WE WILL PURCHASE FOR CASH THE FOLLOWING USED IBM COMPUTER SYSTEMS, YOU MAY HAVE FOR SALE, AT PRESENT, OR WITHIN THE NEXT 12 MONTHS:

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Special Purpose Computers

(Continued from page 82)

engineering computer (\$21,500 to \$25,050) / S 40 / E 1961 / *C 65

Packard Bell Computer, a Div. of Packard Bell Electronics, 2700 S. Fairview St., Santa Ana, Calif. / SPEC PUR: TRICE, Digital Differential Analyzer, for solution of differential equations in real-time and simulation studies including open loop integrations and axis transformations involving trigonometric and algebraic operations (price starts at \$89,500 and depends on system configuration); DER-2000, Digital Events Recorder, for monitoring up to 2000 bistable or two position conditions in automatic checkout, process control, etc. (price on request) / GEN PUR: yes / S 350 / E 1957 / *C 64

Philco Corp., a subsidiary of Ford Motor Co., Computer Div., 3900 Welsh Rd., Willow Grove, Pa. / SPEC PUR: BasicPac, general purpose, mobile transportable, ruggedized FIELDATA computer for military uses; military computers for use in space vehicles, aircraft, and other military purposes; real-time electronic access and display system, transmits data between remote typewriter and cathode ray tube display devices and any computer or input-output data handling device, suitable for real-time command and control remote teaching aids and computer applications requiring on-site or remote displays, programmed or manual control of display format; general purpose print reading system, transforms printed information into computer language in the form of magnetic or punched paper tape; message and data switching system, processes communication-based information among remote points within a communications network, provides integration of several hundred teletypewriter messages and high-speed

data circuits / GEN PUR: yes / S 3280 / E 1092, corporation; 1952, computer division / *C 64

Serck Controls Ltd., Queensway, Leamington Spa, Warwickshire, Eng. / SPEC PUR: Solid State Digital Telecontrol, for telemetry, remote controls and supervision (\$5600 upwards); Solid State Special Purpose Computers, for special applications (\$2840 upwards); Solid State Sequence Control, for plant sequence control (\$2840 upwards) / GEN PUR: None / S 100 / E 1959 / *C 64

Wang Laboratories, Inc., 836 North St., Tewksbury, Mass. / SPEC PUR: ADPREP (Analog Data Preparation Unit for Digital Computation) with 10 analog inputs, A/D conversion and outputs on digital printer or punched paper tape (\$4950 to \$5450); telemetered data reduction systems, shaft encoder, synchro, voltage or frequency to digital, for radar range, AZ, EL, etc. (\$5 to \$50 K on special order); automatic data sampling systems, sequence of events, data, etc., on any output device or for direct computer entry (\$5 to \$50 K on special order); LINASEC I & II, automatic or semi-automatic justification of linotype tapes for printing industry using full scale computer with character display (\$25 to \$35 K) / GEN PUR: LOCI 1 & 2, Logarithmic Computing Instruments, desk top personal computers for scientists and engineers (\$2750 to \$7500) / S 80 / E 1951 / *C 65

- END -

ROSTER OF SCHOOL, COLLEGE, AND UNIVERSITY COMPUTER CENTERS

Following is a roster of school, college, and university computer centers. Much of the information is derived from a survey form returned by many organizations. This form asked for: 1. Brief description of your main purposes or mission? / la. Do you provide computing services commercially? / 2. Your equipment and facilities? / 3. Courses given in conjunction with your computing center? / 4. Any remarks? / 5. Number of your staff? / 6. Year established? / Filled in by: Name _____ Title _____ Organization _____ Address _____

In the following each entry contains: Name and address / Purpose or mission / Equipment / Courses / Notes.

The abbreviations used include the following:

S - Size (number of employees)

E - Established (year of establishment)

*C Information checked by the organization (C for checking) / 65: information furnished in 1965 / 64: information furnished in 1964 / etc.

EAM Electric punch-card accounting machine

coml svc Computing services provided commercially

K thousand (words or digits of core storage)

CPM cards per minute

For computer identifications, see the survey of digital and analog computers.

Abilene Christian College, Computer Center, Station ACC, Abilene, Tex. 79601 / *C 65
Instruction, research, business records, student records, and development records / IBM 1401 (4K, card 545), 085 & 088 collators, 083 & 084 sorters, 548 int., 7 key punches / BA 373-Intr. to data processing (3 sem. hrs. credit) and BA 374-Sys. Anal. (3 sem. hrs.) / Using 1401 approx. 40 hrs. per month for instruction and research / S 11 / E 1956

Air Force Institute of Technology, AFIT (SE) Wright-Patterson AFB, Ohio / *C 64
Provide education in scientific and technological areas to meet Air Force needs; programs basically in graduate engineering / two IBM 1620 systems / Digital Computing Techniques; Numerical Analysis and Digital Computer Programming; Digital Computer Circuitry; Digital Computer Logic and Circuits; Nuclear Reactor Technology / Closed shop procedures planned for more efficient use of equipment / S 7 / E 1952 (Analog), 1961 (Digital)

The American University, Center for Technology and Administration, 2000 G St., N.W., Washington, D. C. / *C 65
Educational institution offering graduate program in use of computers as management tool, for budget preparation and execution; information storage and retrieval; student classroom work / two LGP-30's, Model 342 High Speed Reader Punch, two Flexowriters / Curriculum leading to Master's and Doctor's degrees in ADP'S OR, STINFO, Management of ADP Centers, RCD management / S 65 (approx.) / E 1957

Arlington State College, Computer Laboratory, Arlington, Tex. / *C 65
Education and research / IBM 1620 Model I, IBM 1620 Model II, IBM 407, PACE tr-48 (analog) / Courses in Beginning FORTRAN; Symbolic Programming; Numerical Analysis / S 2 / E 1961

Auburn University, Computer Center, Auburn, Ala. / *C 65
Education and research / IBM 7040 (16K), IBM 1401 (4K), IBM 1620 (20K); coml svc / Courses in Numerical Analysis, Digital Computer Programming, System Analysis, Simulation / S 25 / E 1959

Stephen F. Austin State College, EDP Center, Box 4607 SFA Sta., Nacogdoches, Tex. 75962 / *C 65
Teaching, administration, research in Forestry, Physics, Chemistry / IBM 1620, 1622, 407, 85, 83, 548, 514, 26, 24 / Business Administration courses leading toward systems design; Mathematic courses / S 6 / E 1963

Baylor University, Casey Computer Center, Waco, Tex. / *C 64
Research and instruction in computer applications / IBM 1620, 1622, 407, sorter and key punch / Data Processing, Basic Computer Courses / S 5 / E 1963

Boston College, Computer Center, Gasson 21, 140 Commonwealth Ave., Chestnut Hill, Mass. 02167 / *C 65
Faculty research and education - General University processing / 16k, 1401, 1403, 1407, (1) 1311, (4) 729V, Advanced prog., <=> Compare, multiply and divide, column binary, 200-800 C.P.I., sense switches / Basic Computer, System Design and Analysis, IBM P.I. - Auto, FORTRAN, COBOL, R.P.G., FARGO / Computer Center designed primarily as a service center for faculty and research groups / S 8 / E 1965

Boston University Computing Center, 700 Commonwealth Ave., Boston 15, Mass. / *C 65
Service center for university / 60K 1620-II plus auxiliary equipment / 6 courses in Programming, 7 in Systems and Application, 1 in Math. Methods, 2 in Logical Design / S 11 / E 1954

Bowling Green State University, Computer Center, Bowling Green, Ohio / *C 65
Computing facilities for classroom teaching, faculty research, limited administrative data processing / IBM 1620 and peripheral punched card equipment; coml svc (ltd.) / Numerical Analysis; Automatic Data Processing / S 6 / E 1953

Brandeis University, Brandeis Computer Center, Sydesman 3, Waltham, Mass. 02154 / *C 64
Research purposes of faculty and graduate students in physical, behavioral and social sciences / IBM 1620 Model I with 40K memory, floating-point hardware and all optional fixtures; 1623 Card Read Punch; two 1311 Disk Storage Drives, Models 2 and 3; 407 Accounting Machine; two 026 Key Punches / Physics courses include programming and solution of physical problems / S 1 / E 1963

Braunschweig Technischen Hochschule, Rechenzentrum, 33 Braunschweig, Germany / *C 65
Programming techniques for education, automatic programming and compiling techniques; analog computing methods / digital computers: Electrologica XI, 20K words core storage; Zuse 222, 8K words drum storage; analog computers: Shorts General Purpose Analog Computer (2 consoles), Telefunken RAT700 (2 consoles); coml svc / programming for digital computers / besides the computation center there is the "Instutur fur Rechentchnik" with other purposes / S 4 / E 1958

Brigham Young University, Computer Research Center, Provo, Utah / *C 65
Education, research, and administrative data processing / IBM 7040 - all special features except double precision floating point; IBM 1401, 6K memory; coml svc / Computer programming courses in departments of mathematics, accounting, engineering, industrial education / S 31 / E 1958

Brooklyn College, Office of Testing & Research, Brooklyn 10, N. Y. / *C 64
College service, instruction, faculty and student research / 1620 card 40K system; 1620 card 40K Model II; two 1311 Drives; 1443 / Courses given / S 10 / E 1961

Brown University, Computing Laboratory, 180 George St., Providence, R. I. 02912 / *C 65
Research, education, and service / IBM 7070 and 1401; IBM System/360 Model 50 to be delivered late in 1965; coml svc / Numerical analysis and theory of programming (both elementary and advanced) / S 12 / E 1956

Cambridge University, Mathematical Laboratory, Corn Exchange St., Cambridge, England / *C 65
Computing service for University, research into and teaching of computer science / Titan (ICT Atlas 2 computer); coml svc / Diploma in Numerical Analysis and Automatic Computing / S 50 / E 1939

Carleton College, Northfield, Minn. 55057 / *C 65
Undergraduate education and research / IBM 1620 card system and unit record equipment / Utilization of Automatic Computers; Programming Lectures / S 3 / E 1962

Carnegie Institute of Technology, Computation Center, Pittsburgh 13, Pa. / *C 65
Research, service, and education / CDC G21 (two G20's) with 73K, 6 tapes, 50 million character disk, 16 on-line teletypes; IBM 7040, 32K, 10 tapes and IBM 1401, 4K, 4 tapes; coml svc (G21) / Ph.D. in Systems and Comm. Sciences; B.S. option in computation in Elect. Eng. & Mathematics / S 100 / E 1956

Case Institute of Technology, University Circle, Cleveland 6, Ohio / *C 64
Computer education, scientific and engineering calculation / 1107 Univac, Burroughs 220; coml svc / Seven courses in Math Dept. and Engineering Div. / S 20 / E 1957

Catholic University of America, Computing Center, Washington 17, D. C. / *C 64
Education and research for students and faculty / IBM 1620, card I/O, 60K storage, key punches, sorter, printer; coml svc / Fortran Programming; Data Processing in Sociology; Numerical Methods in Engineering / S 3 / E 1961

Central Michigan University, Mt. Pleasant, Mich. / *C 64
University student records, business office operations, student-faculty research, instructional programming / 1620 IBM and related hardware / Programming 1620 and Basic EDP Methods / S 5 / E 1963

Central Technical Institute, 1644 Wyandotte St., Kansas City, Mo. / *C 65
Training in data processing and computer programming; some computer services provided commercially / Bendix G-15; coml svc / Business Automation and Computer Programming / S 3 / E 1962

Chalmers University of Technology, ADB Institutet (Scandinavian Automatic Data Processing Institute), Gilbaltargatan 5 S, Gothenburg S Sweden / *C 64
University training in automatic data processing; consulting, programming, coding and running problems on computers for industries in Scandinavia / Alwac IIIIE (Wegematic 1000), SAAB D21 computer; coml svc / S 25 / E 1957

Chico State College, Chico, Calif. / *C 65
Education / IBM 1620 Model I, 1622, 1311, 407, 082, 026 (3) / Basic and Advanced Programming; Numerical Methods; Linear Programming / S 4 / E 1962

Christian Brothers College, Computer Center, 650 E. Parkway S., Memphis, Tenn. 38104 / *C 65
Undergraduate education in computing for engineering, science, and business administration students / 1620 Model II with 40K memory

School, College, and University Computer Centers

- card system, 407 Printer, Sorter, Key punches; coml svc / Numerical Methods and Programming; Algebraic Compilers / Non-credit evening courses also given / S 3 / E 1962
- Clarkson College of Technology, Computer Center, Potsdam, N. Y. / * 64
Scientific and business education and research / IBM 1620-1622; TR-48 Analog System / Numerical Methods; Methods of Engineering Solutions; Digital Computers I and II / S 4 / E 1961
- Cornell Computing Center, Rand Hall, Cornell University, Ithaca, N. Y. 14850 / * 65
Research computation and instruction / Control Data 1604/160A system with related Unit Record Facility / Programming, Advanced Programming, Numerical Analysis, Data Processing / S 20 / E 1953
- Dartmouth College, Hinman Box 566, Hanover, N. H. / * 65
Research and education / GE 235; Datatnet 30, 4 magn. tape stations, high speed printer, card reader, punch, random access disk storage unit; thirty Model 35 Teletypewriters; IBM 1620 / Numerical Analysis; Business Data Processing; programming (non-credit) / We are doing Time Sharing. Our average turn around time for 90% of our problems is 25 seconds / S 3 full time, 15 part time / E 1959
- Detroit Inst. of Technology, Computer Center, 2300 Park Ave., Detroit, Mich. / * 64
Instruction, commercial application, faculty research, administrative research / 20K 1620, 407 Tab and other unit record equipment / Computer Systems (1620 Fortran); Numerical Analysis / S 4 / E 1964
- Drury College, Springfield, Mo. 65802 / * 65
Education (Undergraduate) / LGP-30; coml svc / Numerical Analysis for science students; Digital Computer Techniques for non-science students / S 1 / E 1960
- Duke University, Digital Computing Laboratory, Durham, N. C. / * 65
IBM 7072 and 1401 used for research and instruction / S 16 / E 1958
- Duquesne University, Pittsburgh, Pa. 15219 / * 65
Education and research / IBM 1620 card - 2 - 1311 Disks / Non-credit Fortran / S 8 / E 1963
- École Polytechnique, 2500 Ave. Marie Guyard, Montreal, Que., Can. / * 65
Education and research / G15D, alpha-numeric, two magn. tapes, graph plotter, off-line Flexewriter / three courses in Basic Programming (Scientific); Basic Data Processing; Numerical Analysis / S 4 / E 1959
- El Camino College, El Camino, Calif. 90506 / * 64
Teach students the mathematics and logic used in computers, instruction in use of computers / IBM 1620, card equipment / Operation of the Computer (basically Fortran); Mathematics and Logic of Digital Devices / IBM 1620 to be installed June 1964 / S 3 / E 1959
- Entelek Inc., 42 Pleasant St., Newburyport, Mass. 01950 / * 65
Programmed self-instructional courses for computer-based management; Computer-Assisted Instruction Program Exchange (CAIPER) / S 10 / E 1961
- Everett Junior College, 801 Wetmore, Everett, Wash. / * 65
Education in computer programming and administrative work / IBM 1620, 2 - 1311 disks, 407, 519, 548, 083, four 024's, two 026's, 056; coml svc / two year Data Processing course, Key Punch and high courses / S 4 full time, 1 part time / E 1963
- Fairleigh Dickinson University, Computer Laboratory Center, Rutherford, N. J. / * 65
Education, research and administration / IBM 1620, IBM basic unit record equipment, IBM 1230 optical mark scoring reader and punch; coml svc / Business Systems & Procedure; Integrated DP; Electronic DP; Computer Programming; Computer Technology; graduated courses - Electronics for Management; Management Systems / S 10 / E 1959
- Florida State University, Computing Center, Tallahassee, Fla. / * 65
Service to the research (80%) and instructional (20%) programs of the University / 9 tape 32K IBM 709 computer, 4 tape 6K IBM 1401 computer, usual auxiliary comp. / Computer Programming (FORTRAN and SPS), Numerical Analysis I & II / Support courses requiring computing or engineering science. Business school data processing in education, physics, math, meteorology and sociology / S 38 (25 full time) / E 1958
- Foothill College, 12345 El Monte, Los Altos Hills, Calif. / * 65
Data processing instruction, student record accounting, district fiscal accounting, test scoring, statistical analyses, etc. / Punched card equipment including IBM 407 A/M; 1620 with doubled I/O card speed and 1413 printer on-line; 12K 1440 system with high speed card I/O, printer and two 1311 disk drives; coml svc / Introduction to DP; Electromechanical Equipment; Introduction to Programming; Business Programming; Administrative Systems and Procedures; Scientific Applications / S 6 / E 1958
- Fordham University, Third Ave. & Fordham Rd., Bronx 58, N. Y. / * 65
Provide computing services to the entire University ranging from administrative applications to research utilization / IBM 1620, 40K core memory, card I/O, disk storage / Fortran seminars, Machine Orientation, Machine Language Seminars / S 9 / E 1965
- The Franklin Institute, Computing Center, 20th & Parkway, Philadelphia 3, Pa. / * 64
Advancement of the computing art through service and formal classes / Honeywell 1400; coml svc / Computers for the Layman; Fortran; Cobol; Total Systems Concept / Complete services offered from problem analysis to repetitive production / S 30 / E 1957
- Fresno State College, Computer Center, Maple & Shaw, Fresno, Calif. 93726 / * 65
Education and school administration / 1620 Model II and 1311 disc tab peripheral equipment / Fortran, Cobol, S.P.S. in Business & Education Depts / Member American Collegiate Schools Bus. / S 1 1/2 / E 1964
- Fullerton Jr. College, 321 E. Chapman Ave., Fullerton, Calif. / * 65
Education / 1620 card I/O, 20K, one disk, four 026 keypunches, one 77 collator, one 82 sorter, one 514 reproducer, one 402 tab, one 602 calculator / Introduction to DP; Machine Wiring; Programming; Systems; DP Math / S 3 / E 1961
- Gannon College, Perry Square, Erie, Pa. / * 64
Education / LGP-30 and IBM 1620, 1622 card read punch, printing card punch, accounting machine, sorter, etc. / Data Processing; Management Control Systems; Automated Data Process Programming; Digital Computers; Advanced Digital Computers / S 3 / E 1963
- General Motors Institute, Computer Services Dept., 1700 W. Third Ave., Flint, Mich. / * 65
Train and encourage students to use digital computer as tool in engineering / 1620 40K card, Model II; 1440 12K 2-Disk Drives, 407 Accounting Machine, 519 Reproducer, 088 Collator, 082 and 083 Sorters, 548 Interpreter / Introduction to Digital Computer Programming; Numerical Analysis; Systems Analysis and Data Processing; use of computer integrated into classwork in several engineering courses / S 8 / E 1961
- Georgetown University, Computation Center, 37th and O Sts., N.W., Washington, D. C. 20007 / * 65
Provide computational support for research, education and training in electronic digital computer technology / IBM 1620, 60K, Disk, Plotter, Card I/O, 407 Accounting, 083 Sorter, three Keypunches / Formal courses on digital computers and numerical methods, informal courses on computer programming / Paper tape input on order / S 4 / E 1963
- George Washington University, Computer Center, Washington, D. C. 20006 / * 65
Education and research / 60K IBM 1620, 407 sorter, three key punches, two 1311 disk storage drives, 1620 Model II / Courses in departments of engineering, business, and statistics / S 5 / E 1963
- Georgia Institute of Technology, Rich Electronic Computer Center, 225 North Ave., N.W., Atlanta, Ga. 30332 / * 65
Education and research / Burroughs 220, 5K, 6 magn. tapes; Burroughs B5500, 32K, two 32K word drums, 12 magn. tapes / Over 90 courses involving computers and their applications / S 80 / E 1955
- Georgia State College, Computer Center, 33 Gilmer St., S.E., Atlanta, Ga. 30303 / * 65
Faculty research and teaching, student research, administrative data processing / 1620 Model II, 60K, card reader-punch, two 1311 disk packs, 1443 printer, IBM 1627 incremental plotter; coml svc / Introduction to Computer Programming; Quantitative Methods; Accounting Control Systems; Data Processing for Accountants / Other courses, master's degree in computer science planned for Fall 1966 / S 10 / E 1959
- Glendale College, 1500 N. Verdugo Rd., Glendale, Calif. 91208 / * 64
Education / IBM 1620 and IBM punched card equipment available through Glendale Unified School District during coming school term / Introduction to Business DP; Computer Programming / Additional courses being planned; two-year curriculum being developed / S 3 / E 1961
- Harvard Computing Center, 33 Oxford St., Cambridge, Mass. / * 64
Computing service for the University / IBM 7094, two channels, 14 tapes; three IBM 1401's; supporting EAM and keypunch equipment / Fortran for Harvard students and faculty only / S 46 / E 1962
- Harvey Mudd College, Dept. of Engineering, Claremont, Calif. / * 65
Engineering education / 1620 card system, document writer, sorter, and Donner 3400 analog computer / Used in regular instructional program / S 7 / E 1955
- Highlands University, Computing Center, Las Vegas, New Mexico 87701 / * 65
Research and instruction in computer science / 1620 40K card I/O, 40TE4, three 026's, sorter, reproducer, collator, interpreter / Basic programming, numerical analysis, introduction to modern computers / Nearly all undergraduate mathematics courses use the computer as a laboratory / S 5 / E 1962
- Hofstra University, Computer Center, Hempstead, L.I., N. Y. / * 64
Student and faculty education in computers, automation and impact of computers on our social life / 1620, 20K, card I/O, 407 acctg. machine, sorter, three keypunch machines, verifier for keypunching / Programming courses for students and faculty / S 4 / E 1963
- Howard Payne College, Brownwood, Tex. / * 64
Acquaint the college student with digital computer programming and use of computers / LGP-30; coml svc / Two courses in programming / S 2 / E 1960
- Humphreys College, Stockton, Calif. / * 64
Teaching elementary data processing operators the use of EAM in accounting / IBM 402 / Introduction to Data Processing; Elements of Programming; EAM for Professional Accounting / S ? / E ?
- Idaho State University, Data Processing Center, Pocatello, Idaho / * 65
Provide services in administrative areas of registration, financial accounting, inventory control and other related areas; provide facilities for student training in uses of ADP equipment and for student and faculty research projects / Punched card installation, IBM 1620; IBM 360-20 scheduled for installation / Physics 381 and 392 - "Computer Programming"; Business Engineering 381 Introduction to Electronic Data Processing / S 5 / E 1961
- Illinois Institute of Technology, Chicago, Ill. 60616 / * 65
Education, research, administration / IBM 7040/1401, IBM 1620 II, assorted unit record equipment / C.S. 302, 350, 401, 501 / Extensive involvement with secondary schools in Chicago area / S 35 / E 1961
- Indiana Institute of Technology, 1600 E. Washington Blvd., Fort Wayne, Ind. 46803 / * 65
Education and research / IBM 1620 Data Processor with IBM 1622 card I/O, IBM 407 accounting machine, IBM 082 sorter, IBM 548 interpreter, IBM 024 and 026 card punches, IBM 056 verifiers / Computer Programming, Numerical Analysis, Matrix Theory / S 10 / E 1961
- Indiana University, Research Computing Center, Bloomington, Ind. / * 65
University research, education in computer sciences / CDC 3600/8090, Satellite, 10 tapes, 2 printers; usual unit record equipment; IBM 709, 10 tapes / Non-credit programming and computing courses / CDC 3400 Satellite, disk and drums will replace 8090 in July, 1965 / S 30 / E 1954
- Institut für Angewandte Mathematik der Universität Mainz, 65 Mainz, Jakob-Welder-Weg 7, Germany / * 65
Instruction of students, research calculations by institutes of the university / Zuse 222 and Siemens 2002 digital computers; Telefunken RA 463/2 electronic analog computer / Undergraduate and graduate courses in programming and numerical mathematics / S 12 / E 1958
- Iowa State University, Computation Center, Ames, Iowa 50012 / * 65
Provide service to all departments, education and research / IBM 7074-1401 magn. tape system, Cyclone computer system, three IBM 1401's, two SDS 910; coml svc / 22 computer oriented credit courses / Graduate program in computer science / S 75 / E 1962
- Kansas State College of Pittsburg, Data Processing Center, Pittsburg, Kansas / * 65
Provide computing facilities for education, research, and local industries / IBM 1620, IBM 1622, IBM 1443, IBM 1311 disk unit, LGP-30, and associated unit record equipment; coml svc / Punched Card Data Processing; Basic Computing Machines; Programming I and II; Data Processing Application; System Design / S 6 / E 1964
- Kansas State Teachers College, Emporia, Kansas 66801 / * 65
Education, teacher training and business data processing, institutional administrative data processing, academic research / 1620 DP system, IBM 1440 DP system, 407, 403, 514, 083, 522, 085, four 026 card punches / Basic Computing Machines; Introduction to Programming; Computer Programming; Systems and Applications; Seminar in Data Processing and Punched-Card Data Processing / Math Dept. also teaches computer programming class and integrates computer use in other math classes / S 3 full-time, 5 part-time / E 1962
- Kansas State University, Computing Center, Manhattan, Kansas 66504 / * 65
Education / IBM 1620, 60K; IBM 1401, 4K; IBM 1410, 40K, tape oriented; seven 7330 tape drives / Electronic Computing; Scientific Computing; Business Computing; Numerical Analysis / Used by students and staff for research purposes / S 11 / E 1958
- Kent State University, Computer Center, Kent, Ohio / * 65
Education and research / IBM 1620 card I/O, 40K, usual peripheral equipment / Two 5-hour courses in computer science / S 4 / E 1963
- King's College, Computing Center, Wilkes-Barre, Pa. 18702 / * 65
Education / IBM 1620/1311 with related tab equipment; coml svc / BS with concentration in data processing; Fortran programming for science and math students / S 2 / E 1960
- Lafayette College, Easton, Pa. / * 65
Education / IBM 1620, tape reader and punch, 20K, 1620 Flexewriter / "Introduction to Modern Digital Computation", offered to non-engineers of junior and senior standing and Fortran programming offered as part of freshman engineering course / Computer center is not formally separated from engineering divi-

School, College, and University Computer Centers

- tion / S O / E ?
- Lamar State College of Technology, Beaumont, Texas / *C 65
Student instruction in using and programming digital computers; faculty research / Burroughs 205 (only); coml svc / Various engineering and math courses / S 8 student assistants / E 1962
- Lehigh University, Computing Laboratory, Bethlehem, Pa. / *C 65
Education, research / GE 225, magn. tape, printer, AAU / Programming and languages; math dept. and introductory courses in 7 engineering depts. / S 12 / E 1957
- Louisiana Polytechnic Institute, Computing Center, P. O. Box 2215, Tech. Sta., Ruston, La. / *C 65
Graduate and undergraduate computer education; faculty, graduate and staff academic research / IBM card 1620, 60K core, 800 CPM input, full complement non-RPQ hardware; IBM 1311 disk storage unit; IBM 407, 402, 519, 514, 082, eight 026's, 056, 084; 1443 on-line printer; 557 interpreter / 15 courses relating applications and methodology, using computer facilities / 360/30 on order September 1967 / S 5 staff, 6 student / E 1961
- Louisiana State University, Computer Research Center, Baton Rouge, La. / *C 65
Education and research / IBM 7040, 1401, 1620; coml svc / Electronic Data Processing; Applications of Computers to Engineering Problems / S 10 / E 1959
- Loyola University, New Orleans, La. 70118 / *C 65
Education and research / IBM 1620, 1622, 1623, 1311 (Model 3), 1311 (Model 1), 407, 085, 082, 514, 548, 026, 056 / Basic Machine Operation, Advanced Programming, Numerical Methods in Statistical Analysis, Numerical Analysis / S 5 / E 1963
- Lund University, Dept. of Numerical Analysis, Sölvegatan 14, Lund, Sweden / *C 65
Research and education in numerical analysis and programming; computing service for other universities / SMIL computer with 4096 word core memory, 4096 word buffer core storage, 1 tape station of FACIT carousel type, ALGOL 60 compiler; coml svc / Graduate and post-graduate courses in numerical analysis and programming / S 13 / E 1956
- Management Science Training Institute, 430 Park Ave., New York, N. Y. 10022 / *C 65
Training courses in specialized areas of management science such as information retrieval, data communications, programming, programmed learning and teaching machines, marketing, managing an ADP Center, etc. Conducted by senior members of the professional staff of The Diebold Group, Inc. / S ? / E ?
- Mankato State College, Computer Center, Mankato, Minn. / *C 65
Education of college students / IBM 024, 083, 540, 519, 402, 085, 1620, 1622, 026, 026-21, 002, 005 test scoring machine / Digital Computer Programming; Numerical Analysis; Integrated Data Processing; Filing and Records Management / S 2 / E 1963
- Marquette University, 1515 W. Wisconsin Ave., Milwaukee, Wis. 53233 / *C 65
Research and education / IBM 7040 (16K, 6 tape drives); IBM 870; Gerber Scientific Instr. GUMS-3J-2 digital data reader, etc. / Electrical, Civil, Mechanical Engineering; Mathematics; Business Administration / S 7 / E 1958
- Memphis State University, Computer Center, Box 619, Memphis, Tenn. / *C 65
Instruction and research / 60K 1620 with 1311 disk file, card I/O, 407, other assorted equipment; coml svc / Digital Computing; EDP and Programming / S 4 / E 1963
- McGill University, Computing Center, 805 Sherbrooke St. W., Montreal, Canada / *C 64
University scientific computing / IBM 7040 32K / Courses given / S 10 / E 1959
- Miami-Dade Junior College, 11380 N.W. 27th Ave., Miami, Fla. / *C 65
Education and administration / IBM 1620, 1621, 1622, 1623 (extra 20K), 1624, two 1311's, 1443, 002, 026, 519, 077, 047, 407, 557, two Friden Flexwriters / Instruction in unit record, computer theory, computer programming on all listed equipment / IBM 1401 card system, with additional 83, 84, 519, 557, 88, four 7330 magn. tape drives, for school business, shared with county school system; System/360 on order for early 1966 delivery. This system will be equipped with both tape and disc drives / S 12 / E 1961
- Miami University, Computing Center, Oxford, Ohio 45056 / *C 65
Education, research services / IBM 1620, 1311 / All courses in systems analysis dept. / B.S. Applied Science with major in Systems Analysis offered / S 10 / E 1959
- Michigan Technological University, Houghton, Mich. 49907 / *C 64
Provide high speed computational facilities for research and teaching activities for the University / Bendix G-15D, two magn. tape units, on-line IBM card reader and punch, on-line plotter; IBM 1620 Model II with fast printer to be installed in June 1964; coml svc / Elements of Digital Computer; Numerical Analysis; Computer Analysis of Structures; Logical Design of Digital Circuits; Electronic Design of Digital Computer; Pulse and Digital Circuitry; Introduction to Digital Computation / Information pertains to Digital Computer Laboratory only; Analog Laboratory information not included / S 1 / E 1958
- Midwest Research Institute, 425 Volker Blvd., Kansas City, Mo. 64110 / *C 65
Studies in application of digital and analog computers to business and scientific problems; mathematical analysis and computation; economics research; operation research; systems engineering; simulation / IBM 1710 with 1311 and 1443; coml svc / Short course in FORTRAN / S 330 / E 1944
- Missouri School of Mines and Metallurgy — name changed to University of Missouri at Rolla, which see
- Monterey Peninsula College, 980 Fremont, Monterey, Calif. 93940 / *C 65
Education / IBM 1620, 407, 085, 083, 557, 519, 026, 024; coml machine rental / 3 programming courses, 3 EAM courses and 1 systems course / S 7 instructors, 3 classified / E 1959
- Newark College of Engineering, Computing Center, 323 High St., Newark, N. J. 07102 / *C 65
Education and research / IBM 1620 Model I, 1620 Model II with disk, complete EAM set, PACE TR10, PACE IR20; coml svc / Short course in FORTRAN programming / S 5 / E 1961
- New Mexico Highlands University — name changed to Highlands University, which see
- New York University (Courant Inst. of Math. Sciences), 4 Washington Pl., New York 3, N. Y. / *C 64
Development of methods of applying computers to scientific problems and to the study of related mathematical and numerical techniques, research use by all University departments / 7094, two 1401's / Numerical Analysis; Programming; Logic of Computation / S 20 / E 1953
- North Dakota State University, Data Processing Lab., Fargo, N. D. / *C 65
Provide valuable teaching tool for students, supplement staff members and graduate students doing research / IBM 1620, 40K memory, card I/O, IBM 407, sorter, keypunches; coml svc / FORTRAN programming, SPS Programming, Logic Circuitry, Digital-Analog Circuitry and Design / Moving to new quarters in Engineering Center at NDSU, May 1965 / S 3 / E 1961
- Northeastern University Computer Center, Boston, Mass. 02115 / *C 65
Education and research / IBM 1620, 60K memory, 1443 printer / Associate in Data Processing (University College) / S 4 / E 1959
- Northrop Institute of Technology, 1155 W. Arbor Vitae, Inglewood, Calif. / *C 64
To teach engineers how to program, reports to administration / 1620, 1622, 1311 / 1620 Computers I and II / S 3 / E 1960
- North Texas State University, Computer Systems, Denton, Tex. 76202 / *C 65
Instruction, research, administration / IBM Card 1620, Disk 1440, two 402's, three 514's, three 082's, 548, 552, 085, 077, three 024's, four 026's, two 056's / Technical Programming, Business Programming, Numerical Analysis, Systems Analysis / Above equipment is in two centers, Data Processing Center, and Computer Center, under the department of Computer Systems / S 15 / E 1962
- Northwestern University, Computing Center, Evanston, Ill. / *C 65
Provide facilities for faculty and student research and education / CDC 3400, 8 tapes, 2 disk packs, CDC 8090 / Introduction to Computer Coding; Digital Computer Programming and Error Analysis; Digital Computer Solution of Differential and Integral Equations; Digital Computer Solution of Algebraic Problems / S 25 / E 1957
- Nova Scotia Technical College, Halifax, Canada / *C 64
Education and research / LGP 30, Donner 3200 / Advanced Numerical Analysis / S 3 / E 1961
- Ohio University, Athens, Ohio / *C 64
Education, research / IBM 1620, 20K, 1311 disk file, card I/O, 407 printer; LGP-30 / One programming course / S 12 / E 1957
- Oklahoma State University, University Computer Center, Stillwater, Okla. 74075 / *C 65
Service to research staff, graduate student research, controller and business office / IBM 1410 system; coml svc (ltd. to staff participation) / Programming / S 10 / E 1956
- Orange Coast College, Business Data Processing Dept., 2701 Fairview Rd., Costa Mesa, Calif. / *C 64
Education; two-year vocational, AA Degree program for training DP technicians / IBM 1620 with disk; IBM 1401; LGP 30; IBM 402 accounting machine, 602 calculator, 548 interpreter, 082 sorter, 514 reproducer, 085 collator, 026 and 024 card punch (5 in all), 056 interpreter, Friden Programmatic, and Friden TPCP and Selectata / Introduction to Data Processing; Data Processing Machines (IBM tab); Systems and Procedures; computer programming courses / S 11 / E 1958
- Oregon State University, Computer Center, Mathematics Dept., Corvallis, Ore. 97331 / *C 65
Education and research into the development and use of computers / ALWAC-III-E (modified) and NEBULA / Math 151 Digital Computer Programming, Math 351 Computer Principles, Math 352 Computer Operation, Math 353 Symbolic Language Programming, Math 355 Automata, Math 363 Linear Programming and Games, Math 457, 458 Systems Systems Programming, Math 461, 462, 463 Mathematical Methods in Statistics, Math 551 Computer Logic, Math 552 Computer Algorithms, Math 553 Computer Languages, coml svc / S 5 staff, 4 grad. students, 12 students / E 1957
- Parsons College, Fairfield, Iowa / *C 65
Handle academic and financial accounting, provide education to students in computer programming and systems design / IBM 1401, two disk drives, 357 data collection system, 407 accounting machine with other tab equipment / Basic Computer Systems; Advanced Programming and Systems Design / S 7 / E 1960
- Pennsylvania State University, Computer Facilities, Electrical Engineering Dept., University Park, Pa. / *C 65
Teaching and research in digital and analog computers / Pennstac Digital Computer Analog Computers, Network Analyzer / Logical Design of Digital Computers (2 courses), Analog (2 courses) / S 6 / E 1952
- Philco Technological Center, C & Ontario Sts., Philadelphia, Pa. 19134 / *C 64
Resident school and home study courses; training services / S 25 / E 1957
- Polytechnic Institute of Brooklyn, Computer Center, 333 Jay St., Brooklyn, N. Y. 11201 / *C 65
Educational and computing facility for students, staff, and research projects / IBM 7040 with full options & channel B, IBM 1401-03, IBM 1402, IBM 1403, 8-729-V tape drives, 8-26 keypunches, 1-47 tape to card punch, 1-82 sorter, 1-407 printer, 1-519 reproducer, 1-557 interpreter; coml svc / 10 half-semester and 2 one-week non-credit courses in FORTRAN IV and MAP languages (open to all registered students and to staff). Credit courses in FORTRAN IV and specialized computer techniques are given by Dept. of Math and Civil and Chemical Eng. / S 8 full time, 6 part-time / E 1960
- Pratt Institute, Computer Laboratory, Brooklyn, N. Y. 11205 / *C 64
Instructional, research and administrative use / IBM 1620, card reader and punch, key punch, interpreter, document writing system; coml svc / Digital Computer Programming / S 2 / E 1961
- Programming and Systems Institute, 33 W. 42nd St., New York, N. Y. 10036 / *C 65
Teach data processing courses / 1401, 8K tape system; tab equipment; coml svc / 1401, Systems courses, Tab courses, Key punch / S 25 / E 1959
- Purdue University, Lafayette, Ind. / *C 64
Instruction, research / IBM 7090, two IBM 1401's; coml svc / All levels of programming, numerical analysis, automata / Full degree programs offered in computer sciences at B.S., M.S., Ph.D. levels / S 10 / E 1962
- Randolph-Macon College, Computer Center, Ashland, Va. 23005 / *C 65
Undergraduate education / IBM 1620, card I/O, 20K, special instructions; sorter, collator, keypunches, 407 accounting machine / FORTRAN; Introduction to Digital Computation / Other courses make primary use of Computer Center; e.g. Numerical Analysis, Differential Equations, Physics, etc. / S 3 / E 1963
- Rice University, Houston, Tex. 77035 / *C 64
Research in computer logic, circuits, and programming / Computer constructed by Project Staff / Computer oriented courses in engineering, philosophy, and math depts. / S 10 / E 1957
- Riverside City College, 3650 Fairfax Ave., Riverside, Calif. / *C 65
Training data processing technicians in the basic and intermediate concepts and techniques of business data processing / IBM 1620, 1622 r/p unit, 402 acctg. machine, 085 collator, 514 reproducer, 082 sorter, 026 and 024 keypunch, 056 verifier, 1311 disk files (Models 2 and 3), 1940 serial printer / Introduction to Data Processing; Electromechanical Machines; Practical Problems in DP; Computer Programming; Data Systems; special program for training deaf students in keypunch / Making preparations to replace 1940 printer with 1443 printer and to add system 360, Model 20 / S 4 / E 1963
- Rose Polytechnic Institute, Computing Center, 5500 Wabash Ave., Terre Haute, Ind. / *C 64
Education in use of computers in science and engineering, secondary use — research / Bendix G-15 with two magn. tape stands, digital differential analyzer, data plotter, card coupler, IBM 514, 402, 082, 026, miscellaneous small analog computers; coml svc (limited) / S 10 / E 1960
- Rutgers University, Center for Information Processing, New Brunswick, N. J. / *C 65
Computational services, education, research, aid to other departments in the University / IBM 7040, 1401, 1620; coml svc / Faculty courses in programming; undergraduate courses in numerical analysis, programming and advanced programming techniques; M.S. program in system analysis / S 18 / E 1959
- Ryerson Polytechnical Institute, 50 Gould St., Toronto 2, Ont., Can. / *C 65
Familiarization of DP equipment; train programmers and system analysts / 1620 card system (to be replaced this year) / Principles of EDP, Systems and Procedures, Numerical Analysis, FORTRAN and COBOL programming / Courses still being revised and enlarged / S 4 / E 1963

School, College, and University Computer Centers

- St. Cloud State College, St. Cloud, Minn. / *C 65
Administrative, educational, and research facilities / IBM 026 (2), 082, 407, 1620 Computer / Math 270, Programming the IBM 1620; Math 470, Numerical Analysis; Business 413, Office Automation / S 3 / E 1957
- St. Louis University, Yalem Computer Center, 3690 W. Pine, St. Louis, Mo. / *C 65
Scientific research and instruction / IBM 1620 Model 1; card and paper tape I/O; 60K memory; automatic divide; additional instructions / FORTRAN II; Introduction to Computers / S 4 / E 1961
- St. Mary's University, Computer Center, San Antonio, Tex. 78228 / *C 64
Education and research / IBM 1620, card punch I/O, IBM 082 sorter, IBM 026 keypunch; coml svc (limited) / Introduction to Computers and Programming; Fortran / S 4 / E 1962
- St. Olaf College, Northfield, Minn. / *C 64
Undergraduate education / IBM 1620 available to students through Carleton College / Programming; Numerical Analysis / S 5 / E 1959
- San Fernando Valley State College, Computer Center, 18111 Nordhoff St., Northridge, Calif. 91326 / *C 65
Graduate and undergraduate courses and projects in computer sciences, faculty research, administrative data processing / IBM 1013 teleprocessor working with Western Data Processing Center, EAM support equipment, LGP-30, G.E. 225 / Introductory and advanced courses in computer science in several departments / S 15 / E 1959
- San Francisco State College, Computer Center, 1600 Holloway Ave., San Francisco, Calif. 94132 / *C 65
Instruction in programming and computer applications, student and faculty research / IBM 1620 card system 40K core storage, automatic floating point, indirect addressing, special features, 1311 disk drive, 407 printer, 082 sorter, 514 reproducing punch, two 026 keypunch machines / Numerical Analysis, Machine Computations, Physical Chemistry, Quantitative Analysis, Graphics & Computation, Experimental Analysis, Seminar in Secondary School Administration, Evaluation in Education, Seminar in Educational Research, Educational Statistics & Data Processing, Statistical Methods in Education, Data Processing (Unit Record Management), Introduction to EDP, Management Science, Management Problems & Policies, Seminar in EDP, Seminar in Management Science, Seminar in Parties and Groups, Psychological Measurement, Psychological Statistics, Research Methods & Techniques / Also sponsor occasional short courses in FORTRAN programming for faculty and administrative staff / S 6 / E 1899
- San Joaquin Delta College, 3301 Kensington Way, Stockton, Calif. / *C 65
Instruction in Data Processing Systems - EAM and EDP / IBM EAM equipment, four 026's, 082, 077, 402, 514, 548, 602, IBM 1620 with 1622 r/p / Fundamentals of DP; Punched Card Machines; Basic, Business, Scientific Computer Programming; Computer Mathematics; DP Systems / S 9 / E 1960
- San Jose State College, Computer Center, San Jose, Calif. 95114 / *C 64
Education / IBM 1620, 1622 card reader, 1623 core storage; 407; 083, four 026's; 548; 514; coml svc / Seven computer oriented courses / S 3 / E 1961
- Seattle University, Computer Center, Seattle, Wash. 98122 / *C 64
Provide computing facilities for instructional, research, and internal use of staff, faculty, and students / IBM 1620-1311 complex, two 026's, 407, 519, 083, 085, 557; coml svc / Basic Computer Programming; Principles of Digital Computer Programming / S 5 / E 1963
- Seton Hall University, Computer Center, S. Orange, N. J. / *C 65
Faculty research with emphasis on medical applications and education for graduate and undergraduate students / IBM 1620 with card I/O, 20K memory, automatic divide, indirect addressing, usual record unit equipment / Computer Programming and Numerical Methods; Numerical Analysis / Other courses planned at graduate and undergraduate level / S 12 / E 1962
- Shippensburg State College, Shippensburg, Pa. / *C 65
Education / 1620 with 1311 disk file; complete unit record installation; coml svc / Introduction to DP; Programming I & II; Numerical Analysis / S 4 / E 1963
- Sinclair College, 177 W. Monument Ave., Dayton 2, Ohio / *C 64
Educational facility in connection with two-year Assoc. degree program in EDP, service unit in support of college administrative functions / IBM 1620, IBM 1622 card r/p unit, IBM key-punching equipment / Introductory course in DP and digital computer programming; advanced courses in business and engineering applications of the computer / S 5 / E 1963
- South Dakota State University, Brookings, S. C. 57007 / *C 65
Education and research / 1620 with 40K, 407 acctg. machine, 085 collator, 082 sorter, 026 keypunches, 056 card verifier; coml svc / FORTRAN II and GOJIAN / S 3 / E 1961
- Southeast Missouri State College, Cape Girardeau, Mo. 63701 / *C 65
Undergraduate education and faculty research, data processing / IBM 1620, card I/O / Computer Programming, FORTRAN Programming / S 1 / E 1962
- Southern Illinois University, Data Processing and Computing Center, Carbondale, Ill. / *C 65
Administration, research and education; planning total information system / IBM 40K card 1620, 8K card 1401, 8K 6-tape 1401, 8K 3-tape 1401, IBM 7040 32K, 8-tape, IBM 1620 with 1311 disk pack / Computer oriented courses in mathematics, accounting, management depts.; School of Technology courses in information processing science, core of M.S. degree in Applied Science; Digital Computers in Research; Programming Languages; Programming Systems; Design of Automatic Programming Language Processors; Programming Systems Design; Digital Computer Programming for Engineers / S 65 / E 1958
- Southern Methodist University, Computing Laboratory, Dallas, Tex. / *C 65
Research and education / CDC 1604, 32K memory twelve tape units; CDC 160A off-line; Rem. Rand SS 90,1003, tab equipment / Computer oriented business and engineering courses; complete line of non-credit short courses / S 12 / E 1957
- Southern University, Baton Rouge, La. / *C 65
Educational and student accounting and business operations / IBM 1620, IBM 1440 all necessary peripheral equipment / Theory and Use of Computing Machines; Introduction to DP; Numerical Analysis; Mathematical Statistics; Automation and Computers / S 1 / E 1963
- Stanford University, Computation Center, Stanford, Calif. 94305 / *C 65
Provide first-rate computing service, contribute to computer education, maintain a strong research and development effort in computer services / 7090-1401 system with additional 1401 on campus; Burroughs B-5500 system with remote data connection for Stanford Linear Acceleration Center; Digital Equipment Corp. PDP-1 with direct connection to 7090 for time-sharing research, man-machine interaction studies, and artificial intelligence / Courses in programming, list processing, simulation of cognitive processes, numerical analysis, advanced programming, logical design / S 70 / E 1953
- State University of New York Maritime College, Fort Schuyler, Bronx, N. Y. 10465 / *C 65
Education and research / LGP-30 with extra Flexwriter / Computer oriented courses in mathematics / S 1 / E 1961
- Stevens Institute of Technology, Computer Center, Hoboken, N. J. / *C 65
Research and education in digital computers and related fields / Univac 1105, 12K word core, 2 drums, 17 tapes; IBM 1620, 40K, Card I/O; coml svc on 1620 only / Numerical Analysis, Elementary and Advanced Programming, Digital Techniques Lab., Theory of Automata, Logical Design / S 9 / E 1961
- Swedish National Office for Administrative Rationalization and Economy (Kungl Statskontoret), Birger Jarls torg 10 (P. O. Box 2106), Stockholm 2, Sweden / *C 65
Central government authority for rationalization within the state administration, making investigations and acting as "consultants" to the service of other state authorities / BESK, FACIT EDB, Alwac III E; coml svc / S 106 / E 1963
- Systemation Div., Ross-Martin Co., 6504 E. 44th St., P. O. Box 800, Tulsa, Okla. / *C 64
Fifty week systems course; also semi-monthly publication "The Systemation Letter" / S 200 / E 1916
- Temple University, Broad St. & Montgomery Ave., Philadelphia, Pa. 19122 / *C 65
Education, research, administrative / 16K IBM 1401, 4 Model 7330 tape units, Ramac unit, 1620 card system with one 1311 disk drive / 4 one-semester courses: Basic 1401 Programming; Advanced 1401 Programming; Computer Training; 1401 Autocoder / S 11 / E 1959
- Tennessee Technological University, Computer Center, Box 21A, Tenn. Tech., Cookeville, Tenn. / *C 65
Teach computer education / 20K IBM 1620, 40K IBM 1620 with IBM 1311 and IBM 1710 control system; coml svc / Principles of Digital Computers; Digital Computer Laboratory / S 2 / E 1960
- Texas A & M University, Data Processing Center, College Station, Tex. / *C 65
Education and research / IBM 7094, IBM 709, 3 IBM 1401's, IBM 650, unit record equipment, analog computer; coml svc / Complete range of courses leading to M.S. degree / S 70 / E 1958
- Texas College of Arts and Industries, Computing Center, Kingsville, Tex. / *C 64
Education, research, administrative DP, some commercial service / IBM 1620 card, paper tape, 40K, Burroughs Datatron 205; coml svc / Introduction to Digital Computers; Introduction to DP; Intermediate DP; Pulse and Digital Systems / S 3 / E 1961
- Trinity University, 715 Stadium Dr., San Antonio, Tex. 78212 / *C 65
Education and research / LGP-30, IBM 650; coml svc / Computer oriented mathematics and engineering courses / S 3 / E 1960
- Tufts University, Computation Center, Anderson Hall, Medford, Mass. 02155 / *C 65
Computing facilities for instruction and research / IBM 1620, 16K memory; coml svc / FORTRAN, SFS, and Numerical Methods / S 5 / E 1962
- Tuskegee Institute, School of Engineering, Computer Center, Tuskegee, Ala. 36088 / *C 64
Education and research, popularize in surrounding communities the significance of Age of Automation / IBM 1620, CPU, 1622, two 1623's, 026, 082, 407EB, Friden Square Root Desk Calculator / High-Speed Digital Computers; FORTRAN for the Faculty; General Introduction to Modern Digital Computers; Automatic Programming Languages in Digital Computers / S 5 / E 1961
- United States Military Academy, Academic Computer Center, West Point, N. Y. 10996 / *C 65
Education academic research and academic administration / GE-225, AAU, 6-tape, HSP, etc., two GE-225's, one Datatnet-30 / Computer use in every subject required / Computer Science elective in Fall '65 - FORTRAN Spring '66 all sophomores / IBM 1050's will be used as remote transmission terminals on a real-time system as of 1 Sept. '65 / S 16 / E 1962
- United States Naval Postgraduate School, Computer Facility, Monterey, Calif. 93940 / *C 65
Support of academic courses and research in Computer Sciences / CDC 1604, IBM 1401 and two CDC 160's / Approximately 20 different courses in 5 academic departments / S 17 / E 1960
- Universität Berlin, Recheninstitut der Technischen, Hardenbergstrasse 34, Berlin 12, Germany / *C 64
Problem solving in applied mathematics, teaching / ZISE Z22 and ZISE Z23; coml svc / Introduction to Programming; Programming Theory; Numerical Analysis; instruction on ZISE Z22 and Z23 / S 8 / E 1957
- The University of Akron, Computer Center, 302 E. Buchtel Ave., Akron, Ohio 44304 / *C 65
Instruction, research, administrative systems research and development, consulting, data processing, and contract work / 60K IBM 1620 system with card reader/punch, 3 disk drives and 2 magnetic tape units; Burroughs 205 magnetic tape system; supporting tabulating installation including sorters, acctg. machines, collator, reproducer, etc.; coml svc / Digital Computer Programming I, Business Data Processing, and Computer Programming I and II, and Computers and Computer Methods / S 11 / E 1961
- University of Alabama, Computer Center, Box 2511, University, Ala. / *C 65
Instruction, research, service to administration / Univac SS80, three tape transports and Univac 1004 with DLT, and 1107 / Numerical Analysis, DP, Engineering uses / University of Alabama has 3 computer centers: 1. Tuscaloosa (main campus); 2. Birmingham (medical center); 3. Huntsville (research center). The 1107 is located at Huntsville, and used by Tuscaloosa via 1004 data transmission. In this case the 1004 becomes an input, output and control device for the 1107. At location 2, there is an IBM 7040 / S 4-3/4 / E 1961
- University of Alberta, Dept. of Computing Science, Edmonton, Alberta, Can. / *C 65
Education and research / IBM 7040, 32K, all special features, 1401 on channel A for I/O, ten magn. tapes (729W), 1414 - one synchronizer, one disk file, usual peripheral equipment / Computer Programming; Numerical Analysis; graduate courses in Advance Numerical Analysis; Theory of Digital Computers / S 25 / E 1957
- University of Arizona, Numerical Analysis Laboratory, Tucson 25, Ariz. / *C 65
Research and teaching / IBM 7072, 10K, 8 tape units (4 may be switched to 1401), flt. pt., binary read; IBM 1401, 16K core, 4 tapes; complete EAM facilities; coml svc / Beginning and Advanced Programming; Business Data Processing; Numerical Analysis; Information Retrieval and Special problems / S 28 / E 1957
- University of Arkansas, Computing Center, Fayetteville, Ark. 72701 / *C 65
Education and research / IBM 7040; coml svc / Digital Computer Programming, Introduction to Engineering Problems / S 15 / E 1960
- University of California, Riverside, Calif. 92502 / *C 65
Research and teaching, IBM 1620-II, 40K, card I/O, 1311 disk storage, IBM 407, 026, 082, 1013; coml svc / Computer Methodology, University Extension Programming / S 3 full time, 5 part-time / E 1963
- University of California, Computer Center, Berkeley, Calif. / *C 64
Computer facilities for education and research / IBM 7090, 32K memory, 14 tapes; two IBM 1401's; two IBM 1405's; IBM 1301 / Periodic FORTRAN courses by center; other computer oriented courses / S 76 / E 1957
- University of California, San Diego, Computer Center, La Jolla, Calif. 92038 / *C 65
Education and research. Large research programs in oceanography (Scripps Institution of Oceanography), aerospace, biology, chemistry, earth sciences, nuclear and space physics / CDC 3600 - 160A satellite computer system; 14 magn. tapes, CDC 160A, CDC 1612 and 501 prin-

School, College, and University Computer Centers

- ters, IBM 080, 523 and other peripheral units; IBM 1401, two magn. tapes; IBM 7702 data link to Western Data Processing Center at UCLA / Courses in computer programming and numerical analysis; symbolic debugging at source language level; format free input and output; Bonn System; FAST system / S 28 / E 1960
- University of California, Western Data Processing Center, Los Angeles 24, Calif. / *C 65
Education and research, primarily in business DP / IBM 7094 - 7040 direct-coupled, 1410, 1301; IBM 1620, 1311 disk storage, 1626 plotter; IBM 7740, 1311 disk storage, 1050 remote consoles, 7702; complete punched card equipment / Non-credit courses in FORTRAN, COBOL, programming, for faculty and graduate students / S 42 / E 1956
- University of Chattanooga, Computer Center, McCallie Ave., Chattanooga, Tenn. 37403 / *C 64
Education / IBM 1620, 402, 082, 514, 026; coml svc / Computer oriented engineering, mathematics, business adm., 2nd secretarial adm. courses / S 4 / E 1963
- University of Chicago, Institute for Computer Research, 5640 S. Ellis Ave., Chicago 37, Ill. / *C 63
Computer discipline, including logical structure and numerical analysis / Maniac III / Courses in computer discipline, applied mathematics / S 27 / E 1960
- University of Cincinnati, Computing Center, Cincinnati 31, Ohio / *C 65
Education and research / 1620 with 40K core, 1311 disk, 1410, 5 Mod II 729 tapes, 1311 disk, 1403 printer. Plotter on order; coml svc / Short non-credit courses in programming, simulation, etc. / S 7 / E 1957
- University of Connecticut, University Computer Center, Storrs, Conn. / *C 65
Provide research and educational computer facilities and assistance to the University / IBM 7040, 32K, 6 magn. tape drives, 1401 on order; IBM 6120, disk, 40K, card I/O, off-line printing, punching, sorting; PACE 231-R, 80 amplifiers, non-linear equipment / Computer Center teaches non-credit faculty and student workshops; eight departments teach programming and use Center's facilities; computer theory and design courses are taught in Electrical Engineering Department / Center operates with open-shop programming; 1620 operated open-shop / S 9 / E 1961
- University of Denver, Computing Center, Denver, Colo. 80210 / *C 65
Support of scientific research projects of Denver Research Institute and University research, undergraduate and graduate instruction / Burroughs B5500 / All engineering students, plus certain math, business administration, psychology, education, etc. classes. No degree in computing / S 8 / E 1958
- University of Florida, University Computing Center, Gainesville, Fla. / *C 65
University research, support and education / 709/1401 and normal card handling equipment; coml svc / Computer Programming, Operations Research, Numerical Analysis, Digital Computer Principles, considerable number of computer oriented courses / S 15 / E 1952
- University of Georgia, Computing Center, Athens, Ga. / *C 65
Computing support for academic research and teaching, to provide degrees in Computer Science / IBM 7094-1, IBM 1401, 16K, 4 tapes, IBM 1401, 4K, 2 tapes, IBM 1620, 60K; coml svc / Computer Science and Statistics courses / S 20 / E 1958
- The University, Computing Laboratory, Glasgow, W. 2, Scotland / *C 65
Teaching and research in computing and numerical analysis / English Electric KDF 9 computer, 16K words store, five tape units, 5/8 channel paper tape input/output, card input, line printer / MSC in Numerical Analysis/Systems Programming; Diploma in Computing; undergraduate courses in Computing and Numerical Analysis / S graduates 10, non-graduates 16 / E 1958
- University of Illinois, Department of Computer Science, Urbana, Ill. / *C 65
Education and research in design of computers and computer components, methods of use of computers, and related mathematical problems; computer facilities for students and faculty of University / IBM 7094; ILLIAC II, large scale, high-speed computer built by the Laboratory; Pattern Recognition Computer, being designed and built by the Laboratory / Digital Computing; Data Processing; Numerical Analysis; Boolean Algebra; Programming; Logical Design of Automatic Digital Computer Circuits; Theory of Computer Devices and Circuits; Memory and Logic / S 182 / E 1949
- University of Kentucky, Computing Center, Lexington, Ky. 40506 / *C 65
Aid in educational, research and administrative activities / IBM 1410 (with 1402, 1403, five 7330 tape units, 40K memory, priority and overflow); IBM 1620 (fast read-punch 1622 unit, 60K memory, automatic floating point; two IBM 407's, two ODS's, 514, 087, 552, 7 keypunches and 2 verifiers, IBM 7040-1401 system, two IBM 1050 remote consoles; coml svc / Automatic Data Processing; Fundamentals of Programming; Data Processing for Business; Cases in Management; Design of Digital Computer; Numerical Analysis; List Processing / S 30 / E 1958
- University of Liverpool, Computer Laboratory, Liverpool 3, England / *C 65
Education and research / English-Electric KDF9; coml svc / Full range of undergraduate and post-graduate courses leading to degrees of M. Sc. and B. Sc. Research leading to Ph. D. Courses cover Numerical Analysis, Operational Research and Electronic Computation / S 7 graduates, 7 non-graduates / E 1959
- University of London, Institute of Computer Science, 44 Gordon Square, London, W.C. 1 England / *C 65
Teaching and research, providing computing facilities to members of the University and other academic bodies / ICT Atlas computer; coml svc / Courses in Numerical Analysis and Computing Science leading to postgraduate diplomas in these subjects. Programming courses covering a number of languages used on Atlas, symposia and external lectures. Advanced courses on special topics / Computing service provided by the University of London Atlas Computing Service / S 55 / E 1958
- University of Maine, Computing Center, Orono, Me. 04473 / *C 65
Research and education / IBM 1620, 40K, card-oriented; coml svc / Programming courses in math, civil engineering, electrical engineering, mechanical engineering, chemical engineering and business administration depts. / S 4 / E 1961
- University of Manchester, Computing Machine Laboratory, Oxford Rd., Manchester 13, England / *C 64
Research into construction and use of digital computers / I.C.T. Atlas; coml svc / Numerical Analysis; Programming; Logical Design / S 40 / E 1949
- University of Manitoba, Computer Centre, Winnipeg 19, Manitoba, Can. / *C 65
Educational / Bendix G15-D; IBM 1620, Disc, 40K memory tape, card I/O; coml svc / Programming, Numerical Analysis, Integrated Information Systems, Advanced Programming, Advanced Computer Topics, Statistics / S 4 / E 1964
- University of Maryland, Computer Science Center, College Park, Md. 20742 / *C 65
Provide necessary centralized high-speed computing service and programming assistance to all academic activities of the University; to build and administer an inter-disciplinary educational program in the computer sciences; to build and conduct a research program in the computer sciences / IBM 7094, two IBM 1401's, three IBM 1620's, CDC 160, PDP-5, IBM 1401, Calcomp Plotter, IBM 1232 / Starting in September '65 six courses in Computer Science will be offered: Introductory Algorithmic Methods; Elementary Algorithmic Analysis; Numerical Calculus Laboratory I, II; Language and Structure of Computers; Special Computational Laboratory / S 50 full-time, 35 part-time / E 1962
- University of Massachusetts, Research Computing Center, Amherst, Mass. / *C 65
Education and research / CDC 3600, 32K words (w) 6-604 tape drives, 2-861 drums, 1-501 printer; IBM 1620, 407, 514, 083, 6-026; coml svc / CS 21 Basic FORTRAN, CS 51 Programming Techniques using FORTRAN, Graduate Language Exam. Course, M.S. Course of study to begin Fall, 1965 / S 10 full-time, 5 part-time / E 1960
- University of Michigan, Institute of Science and Technology, Ann Arbor, Mich. / *C 65
Research and computing services / Large analog computer, over 300 amplifiers, CDC 3200, IBM 1401, LGP-30, PDP-1; coml svc / Various digital computer courses / Have access to University 7090 installation / S ? / E 1946
- University of Minnesota, Data Processing Center, Minneapolis, Minn. 55455 / *C 65
Student records, general ledger, and sub ledgers, and payrolls / IBM 1410, 40K, five 7330 tape handlers; unit record equipment, 407, 188, 085, 557, 519, etc. / No courses given / S 30 / E 1962
- University of Missouri, Computer Research Center, Columbia, Mo. 65201 / *C 65
Research and education / IBM 1620, Model I, 60K, 500/250 card I/O, 1311 disk drive; IBM 1710, Model II, 60K, 500/250 card I/O, two 1311 disk drives; coml svc / Fundamentals of Digital-Computer Programming; Numerical Analysis; Advanced Numerical Analysis / In June will install IBM 7040, 16K, 5 tapes, disk, 600 l/m printer, 800/250 card I/O / S 18 / E 1960
- University of Missouri at Rolla, Computer Science Center, Rolla, Mo. / *C 65
Education and research / IBM 1620 Models II and I, each with 60K, two automatic floating point; Model II has 1443 line printer; Model I has Calcomp 566 digital increment plotter, additional data processing equipment adjacent to computers; coml svc / Introduction to Computing Techniques; Introduction to Numerical Analysis and Digital Computing; Logic of Digital Computers; Digital Computer Programming Languages; Numerical and Statistical Methods of Digital Computing; Techniques of Data Processing; Techniques of Information Processing and Retrieval; Special Problems in Mathematics;
- Special Investigations; Numerical Solution of Partial Differential Equations; Theory of Approximations; Techniques in Operations Research; Matrix Computations; Research in Digital Computing; Introduction to Digital Computers; Analog Computer Techniques; Analog Studies of Mechanical Engineering / M.S. in Computer Science and B.S. in Applied Mathematics with emphasis in Computer Science / S 18 / E 1960
- University of Nebraska, Lincoln, Nebr. 68508 / *C 64
Research and education / IBM 1410, IBM 1620; coml svc / Informal FORTRAN and COBOL courses / S 4 / E 1958
- University of Nevada, Data Processing Center, Reno, Nev. / *C 65
Provide data processing services for the University in areas of research, business and education / IBM 1620 Model II 60K with three 1311 disk drives and 1443 printer; coml svc / Computer programming courses, basic and advanced; keypunching, machine courses and users seminars / S 12 / E 1959
- University of Newcastle upon Tyne, Computing Laboratory, 1/3, Kensington Terrace, Newcastle upon Tyne 2, England / *C 65
Teaching and research / English Electric KDF.9; coml svc / M.Sc. and Diploma in Numerical Analysis and Automatic Computing; Diploma in Data Processing in Business Administration; Research for Ph.D.'s. Courses in Computing to both First and Higher Degrees in other subjects / S 20 / E 1957
- University of New Mexico, Box 181 UNM, Albuquerque, N. Mex. / *C 65
Education, provide computation support for University research / IBM 1620, Model II, 40K card, 1401 disc, tape 0K, MANIAC I; coml svc / Introductory Programming, FORTRAN oriented / S 6 / E 1959
- University of New South Wales, P. O. Box 1, Kensington, N. S. W., Australia / *C 65
Teaching and research activities within the University / English Electric DEUCE Mark I, card input-output, delay line store 402 words, magnetic drum 8192 words; IBM 360/50, 128K byte, memory and in/out paper-tape line printer, 3 disc, 2 magn. tapes on order; coml svc / Programming course for science and engineering undergraduates / S 13 / E 1956
- University of North Carolina, Computation Center, Chapel Hill, N. C. 27515 / *C 65
Research and education / UNIVAC 1105, 12K core, 32K drum, 17 magn. tape units, paper tape I/O; UPTIME 2000 CPM card reader, on-line plotter, off-line HSP / Introduction to Digital Computer Usage; Fundamentals of Information Processing; Metaprograms; Symbolic Logic; Intermediate Symbolic Logic; Introduction to Descriptive Linguistics; Philosophy of Language; Business Data Processing; Introduction to Numerical Analysis; Calculus of Finite Differences; Introduction to the Theory of Determinants and Matrices; Topics in Applied Mathematics II; Introduction to Automatic Digital Control; Tutorial in Architecture of Computers; Information Theory; Error Correcting Code; Processing of Natural and Artificial Languages; Tutorial in Information Retrieval; Methods of Operations Research / S 70 / E 1959
- University of North Dakota, Box 8174 Univ. Sta., Grand Forks, N. D. / *C 64
Service center for students, faculty, business and other offices / IBM 1620, 1622, 407, 085, 548, 514, 083, 024, 056; coml svc / Mechanized Data Processing; Introduction to Electronic Computers; Computer Methods: FORTRAN programming / S 6 / E 1963
- University of Oklahoma, Computer Laboratory, Norman, Okla. / *C 65
Education / IBM 1620 (card) with disk and plotter; IBM 1410 (Disk, 40K, 4 tapes); OSAGE (Version of Rice University Computer); coml svc / Engineering 144-202-302, Bus. Stat. 102, Math. 117-190-217-218-317-318 / S 30 / E 1957
- University of Oregon, Statistical Laboratory and Computing Center, Eugene, Ore. 97403 / *C 65
University research and education / IBM 1620, 1622, 1623, 026, 056, 082, 407, 1013 / Computing; Seminar in Computing; Numerical Analysis; Elementary Business Computing / Substantial hardware expansion planned for first quarter 1966 / S 9 / E 1961
- University of Ottawa, Computing Center, Ottawa 2, Ontario, Can. / *C 65
Provide computing facilities for government agencies and university departments for research and teaching / IBM 1620 II, 40K memory, 1311 disk drive / FORTRAN programming, undergraduate and graduate courses in Numerical Analysis / Center is shared by the University and certain agencies of the Federal government / S 33 / E 1958
- University of Pittsburgh, 800 Cathedral of Learning, Pittsburgh, Pa. 15213 / *C 65
Education, research and design of computer oriented systems / IBM 7090, 32K core, floating point, 10 magn. tapes, two channels, card reader and printer; IBM 7070, 10K core, floating point, 10 magn. tapes, two channels; two IBM 1401's, 4K core, 4 magn. tapes on each switchable with 7070 and 7090, column binary and advanced programming features; Cal-Comp digital plotter; Digital Equipment Co. PDP4,

School, College, and University Computer Centers

- 4K core, CRT, light pen, 2 teletypes; coml svc / Currently developing program for Masters degree in Computer Science / S 50 / E 1957
- University of Portland, 5000 N. Willamette Blvd., Portland, Ore. 97203 / *C 65
- Undergraduate instruction, research / Burroughs 205 on campus / Introduction to Computer Programming/Advanced / S 3 / E 1963
- University of Puerto Rico, A & M College, Mayaguez, P. R. / *C 64
- Education, research problems administration control registration / IBM 1620, 60K card system, IBM 1401 System, 4K, four 024's, 083, 514, 407, 557, two 056's, 026, 085 / Mathematics; Industrial & electric engineering; technical courses in wiring and machine operation / Planning curriculum leading to Assoc. Degree in Computers / S 8 / E 1958
- University of Rhode Island, Computer Laboratory, Kingston, R. I. / *C 64
- Education and research / IBM 1410, 40K core, seven 7330 tape drives, 407, 514, 557, four 026's, 108, 047, 056; coml svc / Informal programming courses given / S 4 / E 1959
- University of Rochester, Computing Center, 31 Taylor Hall, River Campus Sta., Rochester, N. Y. 14627 / *C 65
- Service, research, and teaching / IBM 7074, 1401, 1620 / Elements of Computer Science; Programming Languages; Introduction to DP; others / S 18 / E 1956
- University of St. Thomas, Computer Center, 3812 Montrose Blvd., Houston, Tex. 77006 / *C 65
- Provide special educational facilities to science students who need a computer / Bendix G15D, card attachment (CAL: CDC) on-line; IBM 026 keypunch; off-line Flexwriter; coml svc / Algebra for Computation; Digital Computer Programming; Numerical Analysis; Differential Equations; Statistics / S 2 / E 1962
- University of South Carolina, Computer Science Center, Columbia, S. C. / *C 65
- Teaching and research / IBM 7040 with 8 tapes and on-line 1401 with 4 tapes, IBM 1620 with 60K memory, LGP-30 / Seminars and short non-credit courses / S 17 / E 1961
- University of South Dakota, Computer Center, Vermillion, S. D. / *C 65
- Education and administrative applications / IBM 1620, 40K, card I/O, indirect addressing, automatic divide, additional instructions, 1311 disk storage drive / Basic Computer Programming and the IBM 1620 / S 1 / E 1963
- University of Southern California, 1020 W. Jefferson Blvd., Los Angeles, Calif. / *C 65
- Education and research for students and faculty; curriculum development; quantified research design / Honeywell-800, Honeywell-400, Analog-Digital, IBM 1401, std. card preparation / Algebraic and Business Compiler (2); Introduction to Business Programming; Assembly Language; Introduction to Scientific Computing; Introduction to Data Processing; Introduction to Digital Computers / S 16 / E 1961
- University of Southern Mississippi, Computer Center, Sou. Sta., Box 48, Hattiesburg, Miss. / *C 64
- Aid to faculty, staff, and students in research projects, administrative data processing, and teaching programming / IBM 1620, card I/O, 60K, 407 printer, allied card equipment; coml svc / Programming; Numerical Analysis; Statistics; all with emphasis on FORTRAN / S 6 / E 1962
- University of Tennessee, Computing Center, Knoxville, Tenn. / *C 65
- Computation in scientific and engineering research and education / IBM 7040-1401, 32K, 8 tape (729V), on the 7040; 4 tapes (7330) on 1401; also various tab equipment / Mathematics, 214, 315, 441-2-3, various short courses; Computer Science Program in planning stage / S 20 / E 1961
- The University of Texas, Computation Center, Austin 12, Tex. / *C 65
- Research, computing service for University / Control Data 1604, Control Data 160, IBM 1401, CDC 160-A / Courses in Computer Programming; Numerical Analysis; Computer Methods in Research; Seminar on Information Programming; Integrated Data Processing; 12 courses in all / S 50 / E 1958
- University of Toledo, Computation Center, Bancroft St., Toledo, Ohio 45606 / *C 65
- Education and research / IBM 1620, 20K, card I/O, 1311 disk file, 407, four 026's; coml svc / Computer oriented graduate and undergraduate courses / S 5 / E 1962
- University of Uppsala, Computer Group, Thunbergsvagen 7, Uppsala, Sweden / *C 64
- Research and teaching / IBM 1620, punched card equipment; paper tape equipment; indirect addressing, off-line tabulator and diverse off-line equipment / Numerical analysis; programming in FORTRAN / S 4 / E 1961
- University of Utah, Computer Center, Salt Lake City 12, Utah / *C 65
- Research, education, consulting, programming, service bureau operation / IBM 7040 (32K, 12 tapes 729V), 4K 1401 and 6K 1401, on-line X-Y plotter, teleprocessing with 7094; coml svc / Numerical Analysis, Programming, Data Processing, Computer Science / S 30 / E 1958
- University of Vermont, Burlington, Vt. / *C 65
- Research and education / IBM 1620 card system, 40K, keypunches, 870 system, sorter, 407; coml svc / Computer Programming, Numerical Analysis / S 3 / E 1961
- University of Virginia, Computer Science Center, Charlottesville, Va. 22903 / *C 64
- University computer facility / Burroughs B5000; coml svc / Many computer oriented courses / S 10 / E 1960
- Villanova University, Computing Center, RGD Div., Villanova, Pa. / *C 64
- Education and research / 20K IBM 1620 card I/O, IA, TNS, TNF, MF; coml svc / Day and evening courses in SPS and FORTRAN programming / S 2 / E 1962
- University of Washington, Computer Center, Seattle, Wash. 98105 / *C 65
- Education and research / IBM 650; IBM 7094/7040 DCS; IBM 1401; coml svc / Programming; Numerical Analysis; Business Statistics / S 35 / E 1956
- University of Waterloo, Computing Center, Waterloo, Ontario, Can. / *C 65
- Research and education / IBM 7040, large scale, 32K memory, 10 type 729V tape drives, automatic double and single precision floating point arithmetic, extended performance instruction set; IBM 1401, 6K memory 1311 disk file, print storage, extended performance instruction set, 4 type 729V tape drives switchable with the 7040, directly coupled to the 7040 to provide serial data link; IBM 1710 Process Control System, 1620 II digital computer with 60K memory, index registers, auto float point, on-line printer and 2 type 1311 disk files, full complement of AD-DA conversion equipment including digital potentiometers; PACE TR48 Analog Computer, sometimes attached to 1710 system to do research in hybrid computing and process control simulations; IBM 1620, 60K memory, auto float point arithmetic, indirect addressing and auto divide, 2 type 1311 disk files, 1 type 1443 on-line printer; 25 type 026 keypunches; coml svc / Advanced Numerical Analysis; Computer Programming; Advanced Computer Techniques; Mathematical Methods for Operation Research; Optimization Techniques; Mathematical Logic; System Theory; Information Theory; Numerical Methods; Digital Computer Programming; Project Management; Analog Computation; Control Systems I; Control Systems II; Communication Theory; Human Factors Engineering / S 21 / E 1960
- University of Western Ontario, Computer Science Dept., London, Ontario, Can. / *C 65
- Administration, faculty research, pedagogy and student jobs / IBM 7040, five tapes, 16K core / B. Sc. in Computer Science; M.A. in Math. and Computer Science / S 30 / E 1959
- University of Wyoming, Box 3275, Laramie, Wyoming 82071 / *C 65
- Research and teaching / Philco 2000, 211 main frame, 32K core, 32K drum, 10 tapes, UBC, 2000 cpm reader, 1000 lpm printer and plotter; coml svc / Electronic Data Processing; Digital Computer Programming; Numerical Analysis / S 7 / E 1959
- Utah State University, Computer Center, Logan, Utah / *C 65
- Research, teaching and University applications / 40K, 1620 card system, paper tape reader, plotter; 4K, 1401 card system, teleprocessing; four 026's, three 024's, two 056's, 082; coml svc / Computer Science ten courses, general engineering one course, business administration two courses, approx. twenty courses in widely scattered depts. use the computer center for solution of class problems / S 6 professional, 5 technical, 4 graduate students, 5 undergraduate students / E 1961
- Valparaiso University, Research Advisory and Data Processing Office, Valparaiso, Ind. / *C 65
- Elementary programming instruction and undergraduate computer usage, primarily scientific / 1620, 20K card I/O, 1311 disk, four 026's, 082, 407, 005, 557 / Info. Programming; Analog-Digital in Engineering School; Numerical Analysis / S 3 / E 1961
- Virginia Polytechnic Institute, Computing Center, Blacksburg, Va. 24061 / *C 65
- Education and research / 8 tape IBM 7040/1401 system, 4 tape IBM 1401 system and related unit record equipment; coml svc / FORTRAN and other programming courses, all user oriented / S 18 / E 1958
- Washington & Lee University, Lexington, Va. / *C 64
- Research, education and administrative use / IBM 1620-1622, 402, 514, 082, 085, two 026's / Two computer programming courses; other computer oriented courses / S 2 / E 1960
- Washington State University, Computing Center, Pullman, Wash. / *C 64
- Research and education / IBM 709, 32K core, ten tape drives on two channels; IBM 1401, 16K core, four 729-IV tape drives / Full program of undergraduate and graduate courses are offered leading to M.S. degree in Information Science / S 24 / E 1957
- Wayne State University, Computing and Data Processing Center, Detroit, Mich. 48202 / *C 65
- Education, research, administrative data processing / 10K IBM 7074, nine 729-IV's, eight 729-II's, 1301, two 1401's, one 1460 / Courses in FORTRAN, Computer Science, COBOL, Data Processing / S 62 / E 1953
- Western Michigan University, Computer Center, Kalamazoo, Mich. 49001 / *C 65
- Provide research, training, and service facilities for faculty, staff and students / IBM 1620 central processing unit (20,000 position of core storage, console panel, input-output typewriter), automatic divide, indirect addressing, table protection, additional instructions, floating point arithmetic; 1622 card-read punch; 1623 storage unit (additional 20,000 positions of core storage); 1311 Disk storage drive, provides for random or sequential access storage of two million numerical characters on-line at any one time; 3 keypunches 026; 082 sorter with counting unit; 077 collator; 514 reproducer; 552 interpreter; 407 accounting machine; coml svc (very little) / FORTRAN Workshop; Introduction to Computers I and II; Programming for Computers; Numerical Analysis; Automatic Programming Systems; Integrated Data Processing; Introduction to Management Science; Electronic Data Processing Seminar / S 7 / E 1962
- Western Reserve University, 10831 Magnolia Dr., Cleveland 6, Ohio / *C 64
- Information retrieval / GE 225, six magnetic tape units, high speed printer (900 lines/min.), punched cards I/O, paper tape input, console typewriter output; coml svc / No courses given / S 8 / E 1961
- Western State College, Gunnison, Colo. / *C 65
- Business and education / IBM 024, 026, 056, 083, 407, 519, 557, 1620, 1622 / Principles of Unit Record Data Processing; Computer Programming / S 4 / E 1956
- West Texas State University, Canyon, Tex. 79016 / *C 65
- Research, education and administrative services / 1620 Model II disk pack and 1401 tape, unit record equipment / Programming courses in Math Dept. and School of Business / Additional courses are being added in the School of Business in Systems / S 7 / E 1964
- West Virginia University, Computer Center, Morgantown, W. Va. / *C 65
- Research, education, administration / One IBM 1620, 60K, high I/O, card I/O; IBM 1401, 8K, 4 tape; IBM 7040, 16K, 6 tape, two additional switchable from 1401; coml svc / Introduction to Digital Computation / S 31 / E 1960
- Wichita State University, Wichita, Kans. / *C 64
- Engineering and scientific education and research / IBM 1620, card I/O, 026 puncher, card sorter; Boeing analog computer, 60 amplifiers; two Heathkit 15 amplifier analogs / Two courses in digital computer programming; one course in EDP / S 1 / E 1958
- Yale University, Computer Center, 60 Sachem St., New Haven, Conn. 06520 / *C 65
- Research and education / IBM 7094/7040 DCS; 8 tapes 729-V; 2 tapes 729-VI; CRT; Direct Data Connection; 2 printers 600 lpm on-line; 1301 Model II; EAI 3440 Dataplotter; IBM 1620 (card) 60K; IBM 1401 4K two tapes; IBM 1401 8K two tapes; IBM 610; IBM 1620 (card & disk pack) 40K; IBM 1620 (paper tape) 20K / 20 courses / S 30 / E 1957

- END -

ROSTER OF COMPUTER ASSOCIATIONS

Following is a roster of computer associations, not including "Users' Groups"; for these, see elsewhere in this Directory.

All additions, corrections, and comments will be welcome.

I.
International Federation for Information Processing, c/o I. L. Auerbach, Pres., Auerbach Corp., 1634 Arch St., Philadelphia 3, Pa.

II.
National Information Processing Organizations included in the International Federation for Information Processing:

ARGENTINA
Sociedad Argentina de Calculo
c/o Mr. H. R. Ciancaglini
Facultad de Ingenieria
Universite de Buenos Aires
Buenos Aires, Argentina

AUSTRALIA
Australian National Committee on Computation and Automatic Control
c/o Dr. F. Hirst
Computation Laboratory
University of Melbourne
Parkville N2, Victoria, Australia

AUSTRIA
Austrian Working Committee on Automatization
c/o Dr. Heinz Zemanek
Science Group IBM
Parkring 10
Vienna 1, Austria

BELGIUM
Association Belge pour l'Application des Methodes Scientifiques de Gestion
c/o Professor M. Linsman
Centre Interdisciplinaire de Calcul
Universite de Liege
6, quai Danning
Liege, Belgium

BRAZIL
Brazilian Association for Electronic Computers
c/o Mr. Jose Andrade
Rua Araujo Porto Alegre
36-00 Andar - Divisao Electronica
Rio de Janeiro, Brazil

BULGARIA
Bulgarian Academy of Sciences
c/o Professor Dr. Lyubomir Iliev, Director
1, "7th of November" Street
Sofia, Bulgaria

CANADA
Computing and Data Processing Society of Canada
c/o Prof. C. C. Gottlieb
Computation Centre
University of Toronto
Toronto 5, Ontario

CZECHOSLOVAKIA
Czechoslovak National Committee for the International Federation for Information Processing
c/o Ing. Jiri Kryze
Institute for Information Theory & Automation
Czechoslovak Academy of Sciences
Ceskomalinska 25
Prague 6, CSSR

DENMARK
Danish Academy of Technical Sciences
c/o Dr. Niels I. Bech
Regnecentralen
G1, Carlsbergvej 2
Copenhagen-Valbby, Denmark

FINLAND
The Finnish National Committee for Information Processing
c/o Prof. Pentti Laasonen
Finland Institute of Technology
Helsinki, Finland

FRANCE
Association Francaise de Calcul et de Traitement de l'Information (AFCALTI)
c/o Mr. J. Carteron
Institut d'Astrophysique
93 bis, Boulevard Arago
Paris 14^e, France

GERMANY
Deutsche Arbeitsgemeinschaft für Rechen-Anlagen (DARA)
c/o Prof. Dr. A. Walther
Technische Hochschule
Darmstadt 16, Germany

ISRAEL
Information Processing Association of Israel
c/o Prof. Y. Bar-Hillel
Hebrew University of Jerusalem
Jerusalem, Israel

ITALY
Associazione Italiana per il Calcolo Automatico
c/o Prof. Aldo Ghizzetti
Istituto Nazionale per le Applicazioni del Calcolo
7, Piazzale delle Scienze
Rome, Italy

JAPAN
Information Processing Society of Japan
c/o Dr. Motinori Goto
Japanese Electronic Industry Development Association
35, Shiba Nishikubo Tomoe-cho
Minato-ku, Tokyo, Japan

MEXICO
Mexican Association for Computing and Information Processing
c/o Ing. Sergio F. Beltran, Director
Electronic Computer Center
National University of Mexico
Ciudad Universitaria
Mexico 20, D.F. Mexico

NETHERLANDS
Nederlands Rekenmachine Genootschap
c/o Prof. Dr. A. van Wijngaarden
Mathematisch Centrum
2e Boerhaavestraat 49
Amsterdam, Netherlands

NORWAY
Norwegian Society for Electronic Information Processing (NSEI)
c/o Mr. Jan V. Garwick
Chairman NSEI
Norwegian Defense Research Establishment
Kieller pr Lillestrom, Norway

POLAND
Polish Academy of Sciences
c/o Prof. Leon Lukaszewicz
Koszykowa 79, ZAM
Warsaw, Poland

SPAIN
Instituto de Electricidad y Automatica
c/o Prof. J. G. Santesmases
Instituto de Electricidad y Automatica
Facultad de Ciencias
Ciudad Universitaria
Madrid 3, Spain

SWEDEN
Swedish Society for Information Processing
c/o Mr. Borje Langefors
SAAB
Linköping, Sweden

SWITZERLAND
Swiss Federation of Automatic Control
c/o Dr. A. P. Speiser
IBM Research Laboratory
Saumerstrasse 4
Ruschlikon ZH, Switzerland

UNITED KINGDOM
British Computer Society
c/o Dr. S. Gill
Ferranti Ltd.
21 Portland Place
London W.1., England

UNITED STATES
American Federation of Information Processing Societies
c/o Prof. John R. Pasta
Head, Digital Computer Laboratory
Univ. of Illinois
Urbana, Ill. U.S.A.

U.S.S.R.
Academy of Sciences of the U.S.S.R.
c/o Prof. A. A. Dorodnicyn
Computing Centre
Academy of Sciences of the U.S.S.R.
I-Academicheskyy Proezd 28
Moscow B-312, U.S.S.R.

III.
Other Computer Associations or Associations or Symposiums with Computer Interests (not regional):

Annual Computer Applications Symposium, c/o Milton M. Gutterman, Illinois Institute of Technology, Research Institute, 10 West 35 St., Chicago, Ill. 60616

Association for Computing Machinery (ACM), 211 E. 43 St., New York 17, N. Y.

Association of Data Processing Service Organizations, 947 Old York Rd., Abington, Pa. 19103

Association for Educational Data Systems (AEDS), c/o Don D. Bushnell, Pres., System Development Corp., 2500 Colorado Ave., Santa Monica, Calif.

Association for Machine Translation and Computational Linguistics, c/o Prof. H. H. Josselson, Wayne State Univ., Detroit, Mich.

Association Internationale pour le Calcul Analogique, 50 Ave. Franklin D. Roosevelt, Bruxelles, Belgium
BioInstrumentation Advisory Council (BIAC), c/o Lloyd E. Slater, Secretary, Case Institute of Technology, Cleveland, Ohio

Business Equipment Manufacturers Association (BEMA), 235 East 42nd St., New York 17, N. Y.
Data Processing Cards and Forms Manufacturers Association, 211 E. 43rd St., New York, N. Y. 10017

Data Processing Management Association (DPMA), International Administrative Headquarters, 524 Busse Highway, Park Ridge, Ill.

European Computer Manufacturers Association (ECMA), Geneva, Switzerland

First International Conference on Programming and Control, c/o O. J. Manci, Jr., Frank J. Seiler Research Laboratory, USAF Academy, Colorado Springs, Colo.

Institute of Electrical and Electronics Engineers (IEEE), Box A, Lenox Hill Station, New York 21, N. Y.; One East 79 St., New York 21, N. Y.

IEEE Computer Group, c/o Keith W. Uncapher, Chairman, The RAND Corporation, 1700 Main St., Santa Monica, Calif. 90406

International Association for Cybernetics, Palais des Expositions, Place Andre Rijckmans, Namur, Belgium

International Computation Centre, Palazzo Degli Uffici, Zona Dell E.U.R., Rome, Italy

ISA Instrument-Automation Conference and Exhibit c/o Instrument Society of America, 313 Sixth Ave., Pittsburgh 22, Pa.

Institute on Information Storage and Retrieval, c/o Marvin M. Wolfsey, Center for Technology and Administration, The American University, Washington 6, D. C.

International Automation Congress and Exposition, c/o Richard Rimbach Associates, 933 Ridge Ave., Pittsburgh 12, Pa.

Joint Automatic Control Conference, c/o Mr. Gene F. Franklin, Stanford Electronics Laboratories, Stanford, Calif.

Joint Computer Conference, c/o American Federation of Information Processing Societies, 211 E. 43 St., New York 17, N.Y.

Numerical Control Society, 122 E. 42 St., New York, N. Y. 10017

SHARE Design Automation Committee, c/o J. Behar, IBM Corp., Mathematics and Applications Dept., 590 Madison Ave., New York, N. Y. 10022

Simulation Councils, Inc., c/o Paul J. Hermann, Pres., Iowa State Univ., Ames, Iowa

IV.
Regional Computer Associations

A. Chapters of the Association for Computing Machinery in the United States

ALABAMA
Mid Southeast Chapter, Joseph Albert, c/o General Electric Co., P.O. Box 988, Huntsville, Ala.

ARIZONA
Southern Arizona Chapter, Robert J. Brousseau, Bunker-Ramo Corp., P. O. Box 997, Sierra Vista, Ariz.
University of Arizona Student Chapter, Gordon Thompson, SUPO Box 10689, Tucson, Ariz. 85720

CALIFORNIA
Antelope Valley Chapter, R. N. Berry, 45521 N. Genoa St., Lancaster, Calif.
San Francisco Bay Area Chapter, Marcelline K. Chartz, c/o Ames Research Center, Moffett Field, Calif.

U.S. Naval Postgraduate School Student Chapter, Lt. James E. Johnson, c/o U.S. Navy Postgraduate School, Student Chapter of ACM, SMC #1704, Monterey, Calif.

Los Angeles Valley College Student Chapter, Russell Hogue, 8106 Bellingham Ave., North Hollywood, Calif.

Univ. of California (Berkeley), Student Chapter, Ralph E. Love, Jr., 175 Midwood Ave., Piedmont 10, Calif.

San Fernando Valley, Calif. Chapter, R. H. Hill, c/o San Fernando Valley Chapter, P.O. Box 53 Reseda, Calif.

Arrowhead (San Bernardino/Riverside) Calif. Chapter, M. J. Garber, c/o Univ. of Calif., Biometric Lab., Riverside, Calif.

San Diego, Calif. Chapter, Robert C. Foster, c/o Stromberg Carlson, 1895 Hancock, San Diego, Calif.

San Diego State College Student Chapter, Eugene E. Holmerud, 4908 1/2 67th St., San Diego, Calif. 92115

Orange County, Calif. Chapter, Richard F. Hight, c/o Systems Programming Corp., 1833 E. 17th St., Santa Ana, Calif.

Los Angeles, Calif. Chapter, Solomon Pollack, 817 25th St., Santa Monica, Calif.

Stanford Univ. Student Chapter, Lawrence G. Tesler, c/o Stanford Univ., Computing Center, Stanford, Calif.

COLORADO
Pikes Peak Chapter, John K. Sterrett, 1311 Iowa Ave., Colorado Springs, Colo.
Rocky Mountain Chapter, W. H. Eichelberger, c/o Denver Research Inst., Univ. of Denver, Denver 10, Colo.

FLORIDA
Central Florida Chapter, Charlie Ferguson (Pan American), Central Florida Chapter ACM, 2216 Cindy Circle, Eau Gallie, Fla.
Southeastern Chapter, Casville Callahan, 215 Greenwood Drive, Panama City, Fla.
Florida State Univ. Student Chapter, B. J. McDonald, c/o Computing Center, Florida State Univ., Tallahassee, Fla.

COMPUTER USERS GROUPS -ROSTER

Following is a roster of groups of computer users. All additions, corrections, and comments will be welcome.

Abbreviations: *C: Information checked
G: Information gathered / 65: 1965
64: 1964, etc.

CO-OP / Control Data 1604, 3400 and 3600 / Mr. Robert G. Tantz, Sec'y, CO-OP, c/o Digital Computation Div., Air Force Missile Development Center, Holloman Air Force Base, N. M. 88330 / *C 65

CUBE / Burroughs computers: B100, B200 (B260, B270, B280), B300, B5000, B5500, B220, B205 / Mr. Thomas Favello, Sec'y, CUBE, c/o Cleveite Corp., 200 Smith St., Waltham, Mass. 02154 / *C 65

DECUS / PDP-1, PDP-4, PDP-5, PDP-6, PDP-7, PDP-8 / Mrs. Angela Cossette, Sec'y, DECUS, Digital Equipment Corp., Maynard, Mass. 01754 / *C 65

G-15 Users Exchange Organization / Control Data G-15 / Mr. Peter O. Cioffi, Sec'y, Control Data G-15 Users Exchange Organization, Control Data Corp., 8100 34th Ave., So., Minneapolis, Minn. 55440 / *C 65

General Electric 225 Computers Users Association / GE 210, 215, 225, 235 / Mr. Forrest L. Garrison, Jr., Sec'y, GE 225, c/o General Electric Co., P.O. Box 8555, Philadelphia 1, Pa. / *C 64

GUIDE / IBM Large Scale Computer / Miss Lois E. Meham, Sec'y, GUIDE, c/o United Services Automobile Assoc., 4119 Broadway, San Antonio, Texas 78215 / *C 65

H-400 Users Group / H-400 and H-1400 computers / Mr. Tracy Ansel, Sec'y-Treas., H-400 Users Group, c/o Beech Aircraft Corp., 9709 E. Central, Wichita, Kan. / *C 65

H-800 Users Association / Honeywell 800 and 1800 computers / Mr. K. H. Pearce, Sec'y, H-800 Users Assoc., c/o Northern Ill. Gas Co., 50 Fox St., Aurora, Ill. / *C 65

HEEP / State Highway Depts. using IBM equipment / Mr. William E. Leavitt, Sec'y, HEEP, c/o IBM Corp., 1120 Connecticut Ave., N.W., Washington, D. C. 20036 / G 64

IBM 1620 Users Group / IBM 1620 / Mr. Charles E. Maudlin, Jr., International Sec'y-Treas., 1620 Users Group, Computer Lab., Univ. of Oklahoma, Norman, Okla. / *C 65

JUG / Joint Users Group / Miss Joan M. Van Horn, Sec'y, JUG, c/o The Mitre Corp., 2009 14th St., N. Arlington, Va. / *C 64

NCR 304 Users Organization / NCR 304 / E. N. Barrett, Sec'y, NCR 304 Users Organization, c/o National Cash Register Co., Main and K Sts., Dayton 59, Ohio / *C 65

NCR 390 Users Organization / National Cash Register's NCR 390 Computer / Mr. C. Richard Fruth, Chairman, NCR 390 Users Organization, c/o Professional Bldg., Fostoria, Ohio / G 62

OPUS / OPGON Users / Mr. W. Spence Filleman, Sec'y, OPUS, c/o Datatrol Corp., 8115 Fenton St., Silver Spring, Md. / *C 65

POOL / LGP-21, LGP-30, RPC-4000 / Mrs. Juanita H. Vanderford, Sec'y, POOL, 100 E. Tujunga Ave., Burbank, Calif. 91503 / *C 64

Raytheon Users Group / Raytheon PB250 / Mr. E. David Phillips, Sec'y, Raytheon Users Group, Raytheon Computer, 2700 S. Fairview St., Santa Ana, Calif. / *C 65

SHARE / IBM computers / Mr. David J. Farber, Sec'y, SHARE, c/o Bell Telephone Laboratories, Inc., Whippany, N. J. / G 62

SNUG / NCR 315 / Mr. William J. Barrett, Chairman, NCR 315 Scientific Users Group, Woodward Governor Co., Rockford, Ill. / *C 64

SWAP / Control Data 160, 160-A, 160-G, 924, 924-A 3100, 3200, and 3300 / Mr. Carl L. Hill, Sec'y, SWAP, c/o System Development Corp., 2500 Colorado Ave., Santa Monica, Calif. 90406 / *C 65

TUG / Philco 2000 series / Mr. Omar Phillips, Sec'y TUG, c/o Western Development Lab., 3075 Fabian Way, Palo Alto, Calif. / *C 65

Univac Users Association / Univac computing systems / Mr. David D. Johnson, Sec'y, Computer Users Assoc., c/o Ethyl Corp., P. O. Box 341, Baton Rouge, La. 70821 / *C 65

1620 User's Group / C. E. Carlson, Sec'y, 1620 User's Group, N. Y. State Dept. of Public Works, 1220 Washington Ave., Albany 26, N. Y. / G 64

Palm Beach, Fla. Chapter, Donald J. Beuttenmuller, 243 Russlyn Dr., W. Palm Beach, Fla. 33405

GEORGIA

Georgia State Student Chapter, T. Kenyon, Georgia State Student Chapter, ACM, 2455 Dodson Dr., East Point, Ga.

HAWAII

Honolulu Chapter, A. M. Maish, c/o American Factors, Ltd., P. O. Box 3230, Honolulu 1, Hawaii

ILLINOIS

Southern Ill. Student Chapter, E. Robert Ashworth, 607 S. Dixon St., Carbondale, Ill. 62901
Chicago, Ill. Chapter, Arthur Wachowski, 1238 Forest Rd., LaGrange Park, Ill.
Univ. of Chicago Student Chapter, R. J. Pamos, c/o Univ. of Chicago Student Chapter of ACM, 196 Park Rd., Park Forest, Ill.

INDIANA

Purdue Univ. Student Chapter, Stanley Robbins, c/o Computer Sciences Center, Engineering Administrative Bldg., Lafayette, Ind.
Central Indiana Chapter, James R. Reardon, c/o Radio Corp. of America, RCA Victor Home Instruments Div., 501 N. LaSalle St., Indianapolis, Ind.

KENTUCKY

Kentucky Chapter, Albert S. Hutchison, 273 Boiling Springs Dr., Lexington, Ky.

LOUISIANA

Univ. of Southwestern Louisiana Student Chapter, John McMahon, c/o USL Computing Center, Univ. of Southwestern Louisiana, Lafayette, La.
Louisiana Polytechnic Inst. Student Chapter, James R. Herrington, 2910 Milton St., Shreveport, La.
Shreveport, Louisiana Chapter, Robert A. McKee, c/o Texas Eastern Transmission Corp., P. O. Box 1612, Shreveport, La.
Greater New Orleans Chapter, Carl Diesen, c/o Telecomputing Services, 1200 Robert Rd. Slidell, La.

MARYLAND

Washington D.C. Chapter, Richard C. Lemons, c/o General Electric Co., 7800 Wisconsin Ave., Bethesda, Md. 20014
Univ. of Maryland Student Chapter, John A. Bielec, c/o Univ. of Maryland Student Chapter of ACM, 5023 Riverdale Rd., Apt. 410, Riverdale, Md.
Chesapeake Bay Area Chapter, Tom Lyons, c/o Datatrol Corp., 8115 Fenton St., Silver Spring, Md.

MASSACHUSETTS

Greater Boston Chapter, Lewis Clapp, c/o Bolt, Beranek, and Newman, Inc. 50 Moulton St., Cambridge, Mass.

MICHIGAN

Wayne State Univ. Student Chapter, Edward M. Lansky, 476 Prentiss, Apt. 4, Detroit 1, Mich.
Metropolitan-Detroit, Mich. Chapter, Philip H. Dorn, c/o Computer Technology Dept., General Motors Research Laboratories, Warren, Mich.

MISSISSIPPI

Univ. of Southern Mississippi Student Chapter, John Mims, c/o Computing Center, Univ. of Southern Miss., Hattiesburg, Miss.

MISSOURI

St. Louis, Missouri Chapter, Harry W. Daum, 9074 Doercrest Dr., Crestwood, Mo.
Kansas City, Missouri Chapter, N. B. Andrews, 1735 Baltimore, Kansas City, Mo.
Univ. of Missouri, Rolla Student Chapter, John C. Lamb, c/o Computing Center, Missouri School Mines and Metallurgy, Rolla, Mo.

NEBRASKA

Midlands Nebraska Chapter, Al Molden, c/o IBM Corp., 12333 A St., Omaha 44, Neb.

NEW JERSEY

Stevens Institute of Technology Student Chapter, Mike Horn, c/o Stevens Institute of Technology, Box 786, Castle Point Station, Hoboken, N. J.
N. J. Atlantic County Chapter, George Trimble, c/o Computer Usage Co., Rd 3-308 Princeton, N. J.
Delaware Valley Chapter, J. Carp, c/o RCA-EDP, Building 204-2, Cherry Hill, Camden 2, N. J.

NEW MEXICO

Greater Rio Grande Chapter, Dale Sparks, Director, c/o Office of Research Computer Facilities, Univ. of New Mexico, 2706 Lomas Boulevard, N.E., Albuquerque, N. M. 87106

NEW YORK

Polytechnic Inst. of Brooklyn Student Chapter, Richard S. Friedman, c/o Polytechnic Inst. of Brooklyn, Computer Center, 333 Jay St., Brooklyn 1, N. Y.
Kingston, N. Y. Chapter, Freeman D. Lewis, c/o IBM, Dept. 867, Neighborhood Rd., Kingston, N. Y.
New York City Chapter, Noel Zakin, c/o UNIVAC, Sperry Rand Bldg., New York 19, N. Y.
New York Institute of Technology Student Chapter, M. Monochino, 135-145 W. 70th St., New York 23, N. Y.
New York University Student Chapter, Martin Foont, 277 W. End Ave., New York, N. Y. 10023
Westchester-Fairfield County Chapter, Richard T. Kanter, c/o UNIVAC div., Sperry Rand Corp.,

Sperry Rand Bldg., New York, N. Y. 10019
New York Southern Tier Chapter, Carl H. Freitag, c/o IBM Corp., Dept. 537, Oswego, N. Y.
Poughkeepsie, N. Y. Chapter, John Burns Gilbert, c/o Poughkeepsie Chapter of ACM, P. O. Box 27, Poughkeepsie, N. Y.
Hudson-Mohawk Chapter, Marvin H. Allison, Bldg. 37, Room 523, c/o General Electric Co., Schenectady, N. Y. 12309

Northern New Jersey Chapter, W. W. Lyons, c/o Northern New Jersey Chapter, 7 Pamela Dr., Spring Valley, N. Y. 10977

Long Island, N. Y. Chapter, Sol Broder, c/o State University of N. Y. at Stony Brook, College of Engineering, Stony Brook, L. I., N. Y.
Syracuse, N. Y. Chapter, Bruce H. Dolph, c/o IBM, Data Processing Div., P. O. Box 1367, 1000-1004 James St., Syracuse, N. Y. 13203

NORTH CAROLINA

Central Carolina Chapter, Dr. Robert T. Herbst, 260 Chester Rd., Winston-Salem, N. C.

OHIO

Cincinnati-Dayton Area, Ohio Chapter, Erich T. Zielinski, c/o IBM Corp., 2830 Victory Parkway, Cincinnati, Ohio
Cleveland, Ohio Chapter, Raymond G. Hitti, c/o SOHO, Midland Building, Cleveland, Ohio.
Address correspondence to: Cleveland-Akron Chapter ACM, P. O. Box 4741, Cleveland 26, Ohio

OKLAHOMA

Bartlesville, Oklahoma Chapter, M. E. Jean, c/o IBM Corp., P. O. Box 730, Bartlesville, Okla.
Tulsa, Okla. Chapter, Don Dees, c/o IBM Corp., 1307 S. Boulder, Tulsa, Okla.

OREGON

Willamette Valley Oregon Chapter, Don Witcraft, c/o Oregon State Univ., Dept. of Mathematics, Corvallis 1, Ore.

PENNSYLVANIA

Carnegie Inst. of Tech. Student Chapter, A. Evans, Jr., c/o Programming Res. & Rev., Carnegie Inst. of Tech., Schenley Park, Pittsburgh 13, Pa.
Pittsburgh Chapter, Fred Fliess, c/o Jones and Laughlin, No. 3 Gateway Center, Pittsburgh, Pa. 15230

RHODE ISLAND

Rhode Island Chapter, Victor R. Basili, 6 Gillen Ave., N. Providence, R. I.
Providence College Student Chapter, Joseph W. Farrelly, P. O. Box 744, Providence, R. I.

SOUTH CAROLINA

Clemson Univ. Student Chapter, H. Legare Coleman, Jr., Box 2736, Clemson, S. C.

TEXAS

Agricultural & Mechanical College of Texas (Texas ACM) Student Chapter, Thomas E. Reddin, 700 Cherry, College Station, Tex.
Dallas-Ft. Worth, Tex. Chapter, K. D. Weaver, 1014 W. 5th St., Grand Prairie, Tex.
Houston, Tex. Chapter, Lynn Hayward, c/o M. D. Anderson Hospital, Dept. of Biomathematics, 6723 Bertner, Houston 23, Tex.
Rice Univ. Student Chapter, Forest Basket, III, c/o Computer Project, Rice Univ., Houston, Tex. 77001

UTAH

Brigham Young Univ. Student Chapter, Larry A. Richards, Brigham Young Univ., Provo, Utah
Utah Chapter, Robert E. Hoffman, c/o General Electric Computer Dept., 2425 S. 8th W., Salt Lake City, Utah

VIRGINIA

Tidewater Virginia Chapter, Jaime Delgado, IBM, c/o CINCLANT Staff, Norfolk, Va.

WASHINGTON

Washington State Univ. Student Chapter, John Ford, c/o Wash. State Univ., J3 Kamiak Apt., Pullman, Wash.

WISCONSIN

Milwaukee, Wisc. Chapter, Robert J. Robinson, 1515 W. Wisconsin Ave., Milwaukee 3, Wisc.

B. Chapters of the Association for Computing Machinery Outside of the United States

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Venezuelan Chapter, Fernan Rodriguez Gil, Box 4151 Chacao, Miranda, Venezuela

C. Other Regional Associations

California Association of County Data Processors, c/o John Evanson, Data Processing Manager, County of Fresno, P. O. Box 1247, Fresno, Calif. 93704
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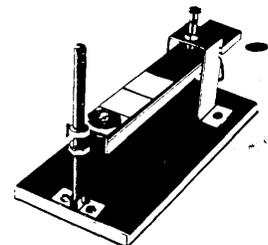
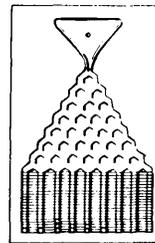
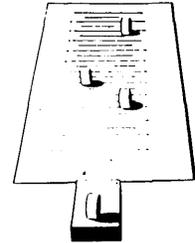
From the Instruction Book's preface by Dr. Frederick Mosteller, Professor of Mathematical Statistics, Department of Statistics, Harvard University, Cambridge, Mass.: . . . Some may feel that this sort of material is only for the youth who is quick at science and mathematics, and certainly such a youngster will profit mightily. But it is not so well known that children, retarded in the mathematical areas, brighten up when presented mathematical tasks derived from experiments they have executed themselves . . .

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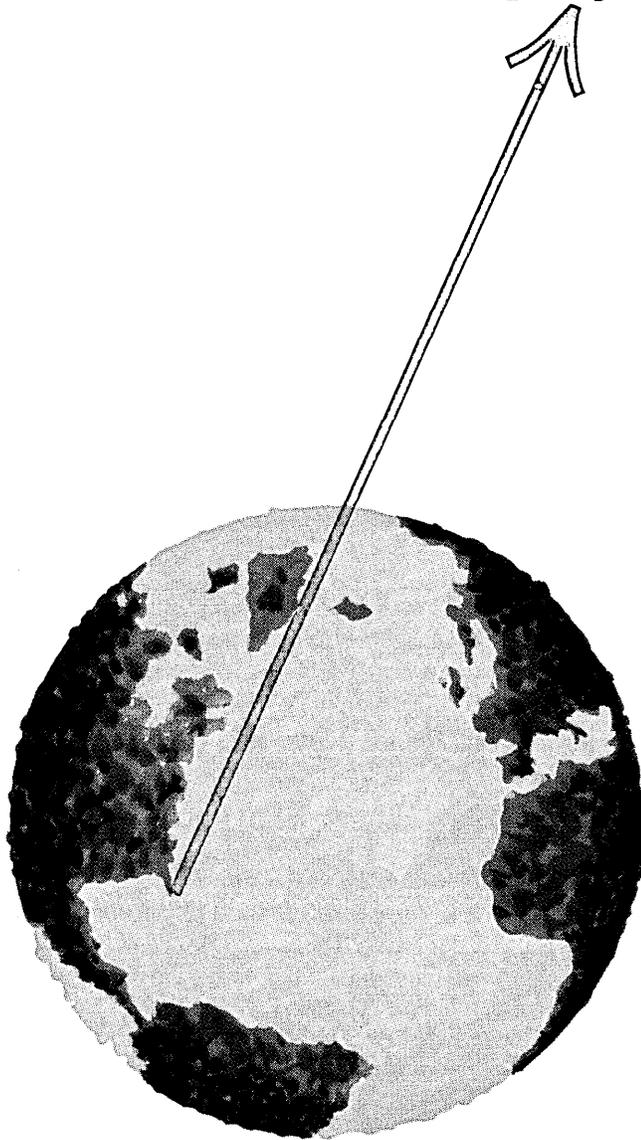
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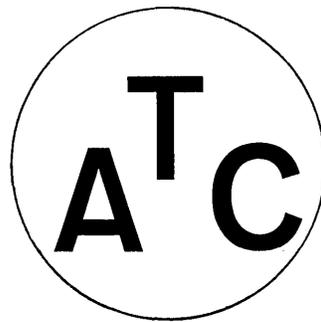
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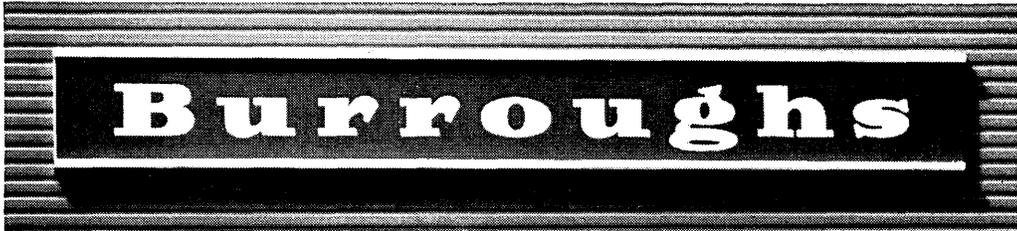
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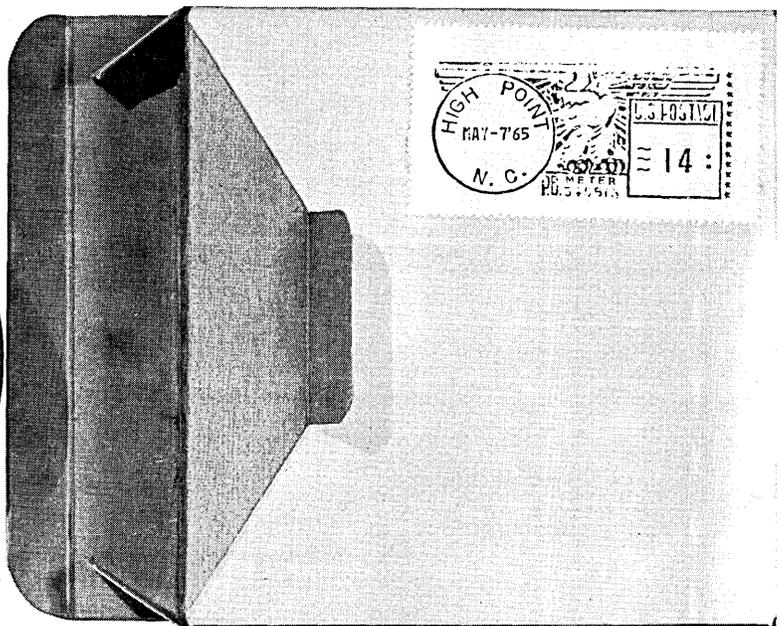
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