

June, 1964



6

computers and automation

THE COMPUTER DIRECTORY AND BUYERS' GUIDE, 1964

the June, 1964 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 700 Areas of Application of Computers and more besides

4 REASONS WHY MEMOREX LEADS IN COMPUTER TAPE

(And what it means to you!)



Premium Quality Ask the most demanding computer centers whose tape is used for their ultra-critical applications. You'll find a multi-million dollar vote of confidence placed in the integrity of Memorex products—the result of uncompromised and unvarying product superiority. With Memorex precision magnetic tape you always benefit from measurably longer tape life, freedom from rejects, greater reliability.



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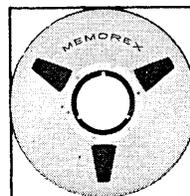
Added Service Close attention to a customer's needs is the rule at Memorex. But not all are technical. It is important to have the right product at the right time and in the right condition. To assure timely delivery and extra care in transportation, Memorex routinely ships via air carrier at no extra cost. What is more, specially designed containers and material handling methods keep tape error-free and pre-test perfect throughout shipment.



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Memorex tape is premium tape. No need to pre-check it. You can place Memorex computer tape directly in service—reel after reel.

Memorex certification means what it says: Memorex computer tape is error-free. Extra care, extra steps and scrupulous attention to every detail make it that way. We know the importance to you of having a tape you can depend on.



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PRECISION MAGNETIC TAPE

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*Du Pont's registered trademark for its polyester film.

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computers and automation

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

June, 1964 Vol. XIII, No. 6

editor and publisher
EDMUND C. BERKELEY

assistant editors
MOSES M. BERLIN
NEIL D. MACDONALD
LINDA LADD LOVETT

contributing editors
ANDREW D. BOOTH
NED CHAPIN
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ALSTON S. HOUSEHOLDER
PETER KUGEL

advisory committee
T. E. CHEATHAM, JR.
GEORGE E. FORSYTHE
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associate publisher
PATRICK J. MCGOVERN

production manager
ANN B. BAKER

art director
RAY W. HASS

circulation manager
VIRGINIA A. NELSON, 815 Washington St.
Newtonville, Mass. 02160, 617-DEcatur 2-5453

advertising representatives
New York 18, BERNARD LANE
37 West 39 St., 212-BRYant 9-7281

Chicago 11, COLE, MASON AND DEMING
737 N. Michigan Ave., 312-SU 7-6558

Los Angeles 5, WENTWORTH F. GREEN
300 S. Kenmore Ave., 213-DUNkirk 7-8135

San Francisco 5, A. S. BABCOCK
605 Market St., 415-YUKon 2-3954

Elsewhere, THE PUBLISHER
815 Washington St., 617-DEcatur 2-5453
Newtonville, Mass. 02160

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For 1964

... commencing page 10

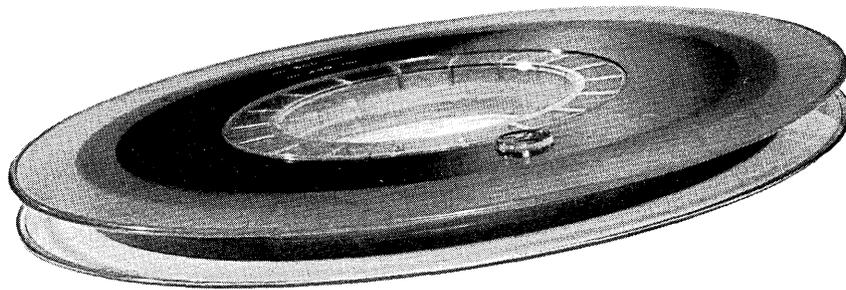
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COMPUTERS AND AUTOMATION, FOR JUNE, 1964



This is Computape reel # 8741-11



Case History: Reel #8741-11 was part of an order shipped to the Engineering Department of a leading University. There it was selected at random and subjected to a continuous wear test. In 268,853 passes no permanent dropouts were experienced.

Exceptional? Yes, outstanding . . . But another example of the longer wear qualities of Computape. Longer wear, less static build-up, greater reliability than ever before.

Test it yourself. Against any other tape.



COMPUTRON INC.

122 CALVARY STREET, WALTHAM, MASSACHUSETTS

Circle No. 8 on Readers Service Card

THE COMPUTER DIRECTORY AND BUYERS' GUIDE, 1964

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ADVERTISING INDEX

Following is the index of advertisements. Each item contains: Name and address of the advertiser / page number where the advertisement appears / name of agency if any.

Alexandria Institute of Technology, 245 S. Kings Hwy.,
Alexandria, Va. / Page 90 / —
American Telephone & Telegraph Co., 195 Broadway,
New York 7, N. Y. / Page 99 / N. W. Ayer & Son,
Inc.
Advanced Scientific Instruments, Div. of Electro-Mech-
anical Research, Inc., 8001 Bloomington Freeway,
Minneapolis, Minn. 55420 / Page 97 / Thompson-
Grande Advertising
Audio Devices, Inc., 235 East 42 St., New York, N. Y.
10017 / Page 95 / Charles W. Hoyt Co., Inc.
Benson-Lehner Corp., 14761 Califa St., Van Nuys,
Calif. / Page 100 / Leonard Daniels Advertising
Berkeley Enterprises, Inc., 815 Washington St., New-
tonville, Mass. 02160 / Page 98 / —
Burroughs Corp., Detroit, Mich. / Page 91 / Campbell-
Ewald Co.
Computer Personnel Consultants, Inc., 135 S. LaSalle
St., Chicago, Ill. 60603 / Page 57 / Kenneth Jacobus,
Inc.
Computron, Inc., 122 Calvary St., Waltham, Mass. /
Page 6 / Tech/Reps
Data Products Corporation, 8535 Warner Dr., Culver
City, Calif. / Page 8 / Faust/Day Advertising
DuPont, Wilmington, Del. / Page 4 / Batten, Barton,
Durstine & Osborn, Inc.
Fabri-Tek, Inc., Amery, Wisc. / Page 79 / Midland
Associates, Inc.
Forms, Inc., Willow Grove, Pa. / Page 3 / Elkman

Advertising Co., Inc.
Honeywell, EDP, 60 Walnut St., Wellesley Hills, Mass.
/ Page 94 / Allied Advertising Agency, Inc.
Information Processing Systems, Inc., 200 W. 57 St.,
New York, N. Y. 10010 / Page 93 / Pritchard, Wood
Inc.
Melpar, Inc., 3461 Arlington Blvd., Falls Church, Va.
/ Page 93 / Lewis, Dobrow & Lamb
Memorex Corp., 1180 Shulman Ave., Santa Clara, Calif.
/ Page 2 / Hal Lawrence, Inc.
National Cash Register Co., Main & K Sts., Dayton 9,
Ohio / Page 77 / McCann-Erickson, Inc.
Pacific Data Systems, Inc., a sub. of Electronic Assoc.,
Inc., 1058 E. First St., Santa Ana, Calif. / Pages
26, 27 / Jay Chiat & Associates
Photon, Inc., 355 Middlesex Ave., Wilmington, Mass. /
Page 25 / Darrell Prutzman Associates Advertising
Potter Instrument Co., Inc., 151 Sunnyside Blvd.,
Plainview, L. I., N. Y. / Between Pages 48 and 49
/ Product Planning
RCA, Princeton, N. J. / Page 53 / Al Paul Lefton Co.,
Inc.
Scientific Data Systems, 1649 17th St., Santa Monica,
Calif. / Pages 50, 51 / Faust/Day Advertising
Telecomputing Services, Inc., 1200 Robert Rd., Slidell,
La. / Page 81 / Bertrand Classified Advertising
Agency
Ed Younger & Associates, 8 S. Michigan Ave., Chicago,
Ill. 60603 / Page 53 / Advertising Mart

CONTRARY TO RUMOR...

OUR NEW, HIGH SPEED PRINTERS ARE NO MORE RELIABLE THAN OUR MEDIUM SPEED MODELS.

HOW COULD THEY BE?

Lots of engineering time and dollars have been poured into making a more reliable printer than our dp/p 3300. Nobody's been able to do it. Including us.

What we *have* done, is develop a new series of high speed, buffered LINE/PRINTERS. They're called the dp/p 4000 Series. And we're writing orders right now on both 600 and 1,000 line-per-minute models.

With the 4000 Series, we haven't changed our design approach. We've used all of the simplified electronic and mechanical features you've come to expect of any *data products* LINE/PRINTER.

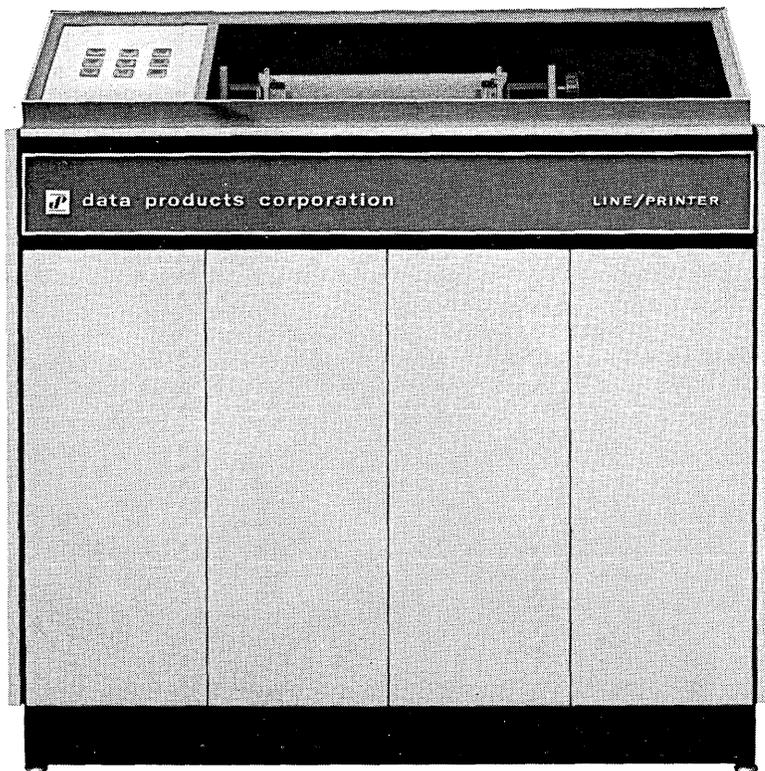
For instance, there's our unique, friction-free hammer mechanism. No finicky linkages. No friction points. Just fast, accurate, long-term, low maintenance printing.

Then, there's our non-traumatic paper feed system. It starts smooth, feeds smooth, stops smooth. No clutch. No brakes. No springs. No dogs. Just load it and forget it.

Also, there are no knobs. Other printers need adjustment knobs. Ours don't. A *data products* LINE/PRINTER needs no adjusting. Ever.

As you can see at the right, we did make some cabinet changes. With the 4000 Series, everything is enclosed in a high-styled shell. The printer looks better that way. It also operates quieter. And paper dust stays inside, where it belongs.

So, it's true. There's no such animal as a printer that's more reliable than our old 3300 model. But now there are faster ones that are just as reliable: The 4000 Series. We'd be happy to send you a new data bulletin about them.



data products corporation 8535 Warner Drive / Culver City, California / Phone: 837-4491

Circle No. 9 on Readers Service Card

Organizations in the Computer Field, 1951 to 1964

As we publish the tenth annual "Computer Directory and Buyers' Guide", the regular June issue of "Computers and Automation", it is perhaps interesting to look back over the years since the first edition of the "Roster of Organizations in the Computer Field" was published. This happened in September 1951, four years before the first separate Directory issue.

Here is the record of the number of organizations that were listed in the "Roster of Organizations" in each of the years from 1951 to 1964:

<u>Year</u>	<u>Number of Organizations</u>
1951	90
52	155
53	170
54	230
1955	300
56	375
57	830
58	740
59	740
1960	720
61	690
62	770
63	770
64	830

The computer field has evidently gone from what was certainly youth to what seems to be a degree of maturity.

As may be seen, in some years we made considerable efforts to find out and include a number of new organizations, some of them perhaps not in the com-

puter field at all. In 1963, in fact, we published a supplementary roster of the names and addresses of over 1000 organizations that might possibly be considered to be in the field. In other years, we were more conservative. In most years, regularly, if an organization did not respond for two years running to our inquiry for information, that organization was dropped from the Roster. Of course, there is hardly a scientific rule for drawing a sharp line between organizations "in" the computer field, and those not in it.

The number of organizations now in the Roster is not too far from the number of organizations eight years ago; but many changes in their identities have happened. A look at the current Roster shows that perhaps a third of the organizations now in the field started business after 1956. There has been a lot of attrition: many computer firms have gone out of business, or been merged, or have in still other ways departed from the computer field.

It is not easy to stay in business in the computer field, stimulating though it may be. Even the access of computer firms to the fabulous powers of computers clearly contains no assurance that the problems of staying in business can be solved on a computer, in keeping with the harsh requirements of reality. As in other fields, the human requirements for good management of firms persist in the computer field also.

Edmund C. Berkeley
 EDITOR

ROSTER OF ORGANIZATIONS IN THE COMPUTER FIELD

(Cumulative, information as of May 15, 1964)

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

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 / Types of activities it engages in, size (expressed in number of employees), year established, nature of its interest in the computer field. 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:

Activities

- Ma Manufacturing activity
- Sa Selling activity
- Ra Research and development activity
- Ca Consulting
- Ga Government activity
- Pa Problem-solving
- Ba Buying activity
(Used also in combinations as in RMSa "research, manufacturing and selling activity")

Size

- Ls Large size, over 500 employees
- Ms Medium size, 50 to 500 employees
- Ss Small size, under 50 employees
(no. in parentheses is approx. no. of employees)

When Established

- Le Long established organization (1932 or earlier)
- Me Organization established a "medium" time ago (1933 to 1952)
- Se Organization established a short time ago (1952 or later)
(no. in parentheses is year of establishment)

Interest in Computers and Automation

- Dc Digital computing machinery
- Ac Analog computing machinery
- Ic Components, supplies, or services for data processing
- Sc Servomechanisms
- Cc Automatic control machinery
- Mc Automatic materials handling machinery

*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) / 64: information furnished in 1964 / 63: information furnished in 1963 / etc.

Organization Entry Form

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

1. Your organization's name?

2. Street address? _____
3. Telephone number? _____
4. City, zone, state? _____
5. Types of computers, data processors, computer components, data processing supplies or services, etc., that you produce or offer? _____

6. Types of activity that you engage in:

() research	() selling
() manufacturing	() consulting
() other (please explain)	_____

7. Approximate number of your employees? _____
8. Year organization was established? _____
9. 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 U-9422; EXbrook 3-9777 / *C 64
Digital modules, programmable digital general purpose buffers, stored program general purpose digital computers, custom systems / RMCa Ss(40) Se(1957) Dlc
- Abacus Information Management Co., P.O. Box 399, New York, N.Y. 10008 / *C 64
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 / CGPa Ss(2) Se(1962) Ic
- ABL Inc., P.O. Box 11193, Palo Alto, Calif. / - / *C 63
Engineering and consulting service in the processing of analog, audio, digital and optical signals / Ca Ss(2) Se(1961) Ic
- AC Spark Plug Div., General Motors Corp., 7929 S. Howell Ave., Milwaukee 1, Wis. / South 2-7000 / *C 64
Design, development and production of general purpose and special purpose digital computers for space and airborne systems and other applications / RMa Ls(6100) Me(1940) Dc
- 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 / MSA Ss(25) Se(1953) Ic
- Acme Visible Records, Inc., Crozet, Va. / 703-823 3611 / *C 63
Accessory filing equipment for control of input/output in data processing / RMSCa Ls(700) Le(1914) Ic
- Actuarial Computing Service, Inc., 1389 Peachtree St., N.E., Atlanta 9, Ga. / TR 5-6727 / *C 63
Specializing in computer applications for the insurance industry, job shop computing / Ca Ss(7) Se(1956) Dc
- Adage, Inc., 292 Main St., Cambridge 42, Mass. / UN 4-6520 / *C 64
Analog, digital, hybrid, stored-program signal processor: analog-to-digital and digital-to-analog converters; links; multiplexers / RMCa Ms(160) Se(1957) DAIC
- ADU 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 Alvac III E (Wegeomatic 10000 and SAAB D27 computers for industries in Scandinavia / RCPa Ss(25) Se(1957) Dc
- Adcom Corp., 9732 Cozycroft Ave., Chatsworth, Calif. / 341-4635 / *C 64
Design and manufacture high-speed analog-to-digital converters, digital-to-analog converters, analog multiplexers, computer interface equipment, and conversion systems / Ma Ss(35) Se(1962) Ic
- Addo-X, Inc., ADP Div., 270 Park Ave., New York 17, N.Y. / YU 6-0620 / *C 64
Addo-X 10-key shuttle carriage adding machines linked to Addo-X tape punches and IBM card punches / MSA Ms Me(1947) Ic
- Admiral Corp., 3800 W. Cortland St., Chicago 47, Ill. / 312-SP2-0100 / *C 63
Power supplies, delay lines, code converters, decoders, digital communications equipment / RMa Ls(6000) Me(1934) Dlc
- Adtrol Electronics, Inc., 116 N. 7th St., Philadelphia 6, Pa. / WA 2-4231 / *C 64
Recorders / RMs Ss(15) Se(1961) Ic
- Advance Data Systems Corp., 2037 Granville Ave., Los Angeles 25, Calif. / 478-0245 / *C 64
Systems analysis / RMSC(Special engineering)a Ss(40) Se(1961) Dlc
- Advanced Information Systems, Inc., 3002 Midvale Ave., Los Angeles 34, Calif. / GR 8-9801 / *C 63
Consulting services, application implementations, research studies / RCa Ss(15) Se(1960) Dlc
- Advanced Scientific Instruments, Div. of EMR, 8001 Bloomington Freeway, Minneapolis, Minn., 55420 / 612-888-9581 / *C 64
Digital computers / RMs Ss(200) Se(1961) Dlc
- Aero Geo Astro Corp., Edsall and Lincoln Rd., Alexandria, Va., 22314 / 354-2000 / *C 64
Special purpose computers, radar programmers, coordinate digital converters, data loggers, data acquisition systems of all types for industry and government, special computer interface products / RMs Ss(700) Se(1958) Dlc
- Aeronautics Div., Ford Motor Co., Ford Rd., Newport Beach, Calif. / OR101e 5-1234 / *C 63
Memories, elements and stacks / RMCa Ls(2500) Se(1956) Dlc
- Aetna Products Co., Inc., New South Rd. & Commercial, Hicksville, N.Y. / 516-WE11s 1-3120 / *C 64
Inked ribbons for computers and data processing / Ma Ss(30) Me(1941) Ic
- Aircraft Armaments, Inc., York Rd., Cockeysville, Md., 21030 / 301-666-1400 / *C 64
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 / RMs Ss(1500) Me(1950) DAIC
- Airlyte Electronics Co., 535 Ave. A, Bayonne, N.J. / 201 HE 6-2230 / *C 64
Analog-digital converters, commutating devices, programming switches / RMa Ms(70) Me(1951) DAIC
- Airpax Electronics, Inc., 6601 N.W. 19th St., Fort Lauderdale, Fla.; Woods Rd., Cambridge, Md.; Ft. Lauderdale, Fla., 587-1100 / *C 64
Differential, analog computer type magnetic amplifiers; complete line of servo, data logging and control systems; electronic tachometers, choppers, circuit breakers, transformers and telemetry equipment / RMs Ss(400) Me(1957) Ic
- Aladdin Electronics, 703 Murfreesboro Rd., Nashville, Tenn. 37210 / 615-242-3411 / *C 64
Pulse and wide-band transformers and other magnetic core components / Ma Ms(150) Le(1929) Ic
- Alden Electronic and Impulse Recording Equipment Company Inc., 1 Washington St., Westboro, Mass. / FOREst 6-4467 / *C 63
All purpose facsimile equipment / RMs Ss Ms Me(1948) Ic
- 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 / RMs Ss Ms(300) Le(1930) Ic
- All American Engineering Co., Lancaster Ave. & Centre Rd., Wilmington 99, Del. / 994-0951 / *C 64
Equipment performance recorders, plethysmograph, medical and electrical instruments / RMs Pa Ms(425) Se(1952) Ic
- Allied Control Company, Inc., 2 East End Ave., New York 21, N.Y. / BUTterfield 8-7403 / *C 64
Relays, solenoid valves / RMs Ss Ls(950) Me(1930) Ic
- Allied/Egry Business Systems, Inc., 429 E. Monument Ave., Dayton, Ohio, 45402 / 223-3133 / *C 64
Data processing forms / MSA Ls(1500) Le(1893) Ic
- American Business Systems, Inc., 2929 B St., Philadelphia 34, Pa. / GA 6-7700 / *C 64
Business forms, data processing cards (regular and special) / MSA Ms(200) Me(1946) Ic
- American Concertone, Inc., 9449 W. Jefferson Blvd., Culver City, Calif. / UFTon 0-7245 / *C 63
Manufacturers of magnetic tape recorders/reproducers / Ma Ms(225) Me(1947) Ic
- American Data Services, Inc., 0110 S.W. Bancroft St., Portland 1, Ore. / CAPitol 6-6851 / *C 64
System design, programming, data processing and machine services provided business, governmental and scientific groups. Computers used are Burroughs 205 and IBM 1401 / SC(Services)a Ss(20) Se(1959) Ic
- American Electronic Controls Co., 2450 Susquehanna, Roslyn, Pa. / 215-884-0093 / *C 64
Special digital controls / RMa Ss(10) Se(1963) Ic
- American Hydromath Co., 24-20 Jackson Ave., Long Island City 1, N.Y. / EX 2-4242 / *C 64
Mechanical and electro-mechanical analog computer: special purpose slide rules, quality control computer, mechanical monographs / RMs Cc Ss(10) Me(1940) Ac
- American Lava Corp., Manufacturers Rd., Chattanooga 5, Tenn. / 265-3411 / *C 64
Custom manufacturing services including technical ceramics and metal-ceramic combinations / Ma Ls(over 1000) Le(1902) Ic
- 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 / RMS(service)a Ls(735,000) Le Ic
- The American University, Center for Technology and Administration, 1901 F St., N.W., Washington 6, D.C. / STerling 3-4940 / *C 64
Research; teaching; training; consulting. Two LCP-30's; off-line Flexowriter, systems design courses, ADP courses / RC(education-training)a Ss(8) Se(1960) Ic
- AMP Inc., Eisenhower Blvd., Harrisburg, Pa. / 564-0101 / *C 64
Solderless terminals, connectors, patchcord programming systems and pinboards, computer power supplies / Ma Ls(4500) Me(1941) Ic
- Amperex Electronic Corp., 230 Duffy Ave., Hicksville, L.I., N.Y. / 516-WE1-6200 / *C 64
Electron tubes, semiconductors (transistors, diodes, rectifiers), circuit blocks, solid state digital systems and sub-systems / Ma Ls(600) Le(1925) Ic
- Amphenol-Borg Electronics Corp., Broadview, Ill. / - / *C 63
Connectors and potentiometers for computer applications; all types / RMs Ss Ls Se(1956) Ic
- 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 / RMC Pa Ss(25); as an affiliate of Keystone Camera Co., Inc., additional personnel and facilities readily available / Me(1934) Ic
- AmTron Inc., 14631 S. Waverly Ave., Midlothian, Ill. / 264-5835 / *C 64
Analog and digital electronic controls for process application in industrial plants / RMs Ss(50) Se(1959) Ctc
- Amulex Electronics, Inc., 467 Connecticut Ave., South Norwalk, Conn. / 203-866-8020 / *C 64
Time code generators, automatic component testers, custom test equipment / MCA Ss(12) Se(1962) Ic
- Anadex Instruments Inc., 7617 Hayvenhurst Ave., Van Nuys, Calif. / 782-9527 / *C 63
Electronic counters / Ma Ss(40) Se(1957) Ic
- Analogue Controls, Inc., 200 Frank Rd., Hicksville, L.I., N.Y. / Overbrook 1-7300 / *C 63
Resistors / Ma Ms(150) Se(1956) Ic
- Andersen Laboratories, Inc., 501 New Park Ave., W. Hartford, Conn. / ADams 6-1281 / *C 64
All types of delay lines and associated electronics / RMs Ss(140) Me(1951) Ic
- Analex Corp., 150 Causeway St., Boston, Mass. 02114 / 617-742-4505 / *C 64
High-speed printer systems, Series 5 Printers, Series 4 Printer, Multiple Tape Lister, Franklin Printers, high-speed listers, airborne printer. Special purpose and militarized printer systems, communications printer, random access disc storage and other peripheral EDP equipment. Analex printer training school / RMs Ss Ls(1000) Me(1952) Ic
- Applied Control Corp., 1000 Main St., Hackensack, N.J. 07601 / 489-4553 / *C 64
Test equipment, digital, in circuit, non logging, visual indication of computer component contents, bench tester and panel mounting versions / Ma Ss(10) Se(1958) Ic
- 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 / RC(programming)a Ss(32) Se(1959) Ic
- Applied Dynamics, Inc., 2275 Platt Rd., Ann Arbor, Mich. / 313-652-4493 / *C 64
General and special purpose analog computers / RMs Ss Ms(185) Se(1957) Ac
- Applied Magnetics Corp., 749 South Kellogg Ave., Goleta, Calif. / 805-967-0123 / *C 64
Custom designed precision magnetic recording heads for computer and instrumentation applications / RMs Ca Ss(120) Se(1957) Ic
- Aracon Laboratories Div., Allied Research Associates, Inc., Virginia Rd., Concord, Mass. / 617-369-9000 / *C 63
Service on IBM 1620 digital computer and a GPS high-speed analog computer; generalized research and development in the physical sciences / RMCa Ms(230) Me(1952) DAIC
- ARGDA Div. of All American Engineering Co., 135 Main St., Belleville 9, N.J. -- discontinued. Division now closed out.
- Arenberg Ultrasonic Lab. Inc., 94 Green St., Jamaica Plain 30, Mass. / 617-Jamaica 2-8640 / *C 64
Ultrasonic test equipment / Ma Ss(21) Me(1950) Ic
- Argonaut Associates, Inc., P.O. Box K, Beaverton, Ore. / CY 2-3149 / *C 64
Biophysical analog computers, operational amplifiers / RMCa Ss(17) Se(1958) AIC
- Aries Corp., 7722 Morgan Ave. So., Minneapolis, Minn. 55423 / UN 6-3321 / *C 64
System engineering, system analyses and programming services / Ca Ss(35) Se(1962) Ic
- Arkay Engineering, Inc., 11800 W. Olympic Blvd., Los Angeles 64, Calif. / Granite 9-8028 / *C 64
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 / Ca Ss(12) Se(1958) Ic
- Arma Div., American Bosch Arma Corp., Roosevelt Field, Garden City, L.I., N.Y. 11532 / 516-P16-2000 / *C 64
Aerospace digital computers, microminiature logic digital computers, NDRO memory systems, shipboard miniature digital computer systems, velocity comparators, display and data management systems, logic keyboards / RMa Ls(1665) Le(1918) Dlc
- The Arnold Engineering Co., Railroad Ave. & West St., Marengo, Ill. / (Chicago) ANdover 3-6300 / *C 63
Magnetic materials / MSA Ls(800) Me(1936) Ic
- The Artron Instrument Company, 11232 Triangle Lane, Silver Spring, Md. 20902 / 301-949-1131 / *C 64
Delay lines, encapsulated circuit modules, magnetic core memory devices, pulse transformers, shift registers / RMs Ss Ss Se(1959) Ic
- Arvery Corp., 3500 N. Kimball Ave., Chicago, Ill. 60618 / 312-463-1400 / *C 64
Laminated polyester tape; metalized or paper and film combinations / Ma Ms(300) Le(1905) Ic
- Assembly Producers, Inc., 7100 Wilson Mills Rd., Chesterland, Ohio / BA 3-3131 / *C 64
Contact meter relays, panel meters, "packaged controls," special electronic controls, electrically actuated controls, automatic control equipment / RMs Ca Ss(300) Me(1945) DAIC
- Associated Sales Analysts, 220 West 42nd St., New York 36, N.Y. / CH 4-7073 / *C 64
Punched card and magnetic tape data processing / Ca Ms(200) Se(1952) Ic
- Association of Data Processing Service Organizations, 947 Old York Rd., Abington, Pa. / 215-659-4300 / *C 63
A non-profit association; symposium, literature. General association services to owners and managers of data processing service centers / Ca Ss(2) Se(1960) Ic
- Astrodata Inc., 240 E. Palais Rd., Anaheim, Calif. / 714-772-1000 / *C 63
Computer-centered data reduction systems (wholly-owned subsidiary COMCOR, Inc. manufactures analog computers and components) / Ma Ms(430) Se(1958) Ic
- Astron Div., Renwell Industries, Inc., 255 Grant Ave., E. Newark, N.J. / HUMBoldt 2-7000 / *C 63

Roster of Organizations

- Various types of paper capacitors, electrolytic capacitors, solid tantalum capacitors and fixed dielectric and R.F. interference noise suppression filters / Ma Ms(350) Me(1950) Ic
- Atlas Engineering Co. Inc., 10 Cheney St., Dorchester, Mass. / HI 5-7100 / *C 64
Transformers. Toroids coils / RMA Ms(150) Me(1950) Ic
- Atlas Precision Products Co. Div. of Prudential Industries, Inc., 3801 Castor Ave., Philadelphia 24, Pa. / Jefferson 5-3700 / *C 63
Mechanical analog computers for fire control, radar, etc.; geared mechanisms, servos, etc.; analog-to-digital converters, sub-assemblies; precision gears, differentials, bearings / Ma Ms(182) Le(1927) Aic
- Audio Devices, Inc., 235 East 42nd St., New York City, N.Y. / PLaza 1-6640 / *C 64
Magnetic recording tape for computers / MSA Ms(275) Me(1937) Ic
- Audio Instrument Co., Inc., 220 East 23rd St., New York, N.Y. 10010 / MU 9-5518 / *C 64
Analog time delay devices; logarithmic converters; autocorrelation recorder / RMSa Ss(9) Me(1949) Ic
- Auerbach Corp., 1634 Arch St., Philadelphia 3, Pa. / LO 3-7737 / *C 64
Consulting services in system engineering, computer programming, business information systems, product and market planning, programmed teaching, computer analysis (standard EDP reports) / RC(systems design) Ms(166) Se(1957) DAic
- Automated Accounting Center of Connecticut, 7 Field St., Waterbury, Conn. / PL 6-8339 / *C 63
Data processing services. Equipment: Bendix G-15 computer, NCR sorter-reader, sorter-coupler, adding machine punches, magnetic tape accessories, Flexowriters, punched card accessories / SCA Ss(10) Se(1961) Dc
- Automated Systems International, 14501 West McNichols Rd., Detroit 35, Mich. / 272-5090 / *C 64
Automated management information systems for automobile dealers and automotive trade / SCA Ms(90) Se(1960) Ic
- Automation Dynamics Corp., 35 Industrial Parkway, Northvale, N.J. / 201-769-9200 / *C 64
Support test equipment / RMA Ss(25) Se(1957) Ic
- Automation Engineers, 344 W. State St., Trenton 8, N.J. / 695-2628 / *C 64
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 / MCA Ss(20) Me(1942) ICMc
- Automation Management, Inc., 25 Brigham St., Westboro, Mass. / 366-4423 / *C 63
Performance computer; management and automation engineering; contractors of integrated processes / RSCa Ss(3) Se(1953) Ic
- Autometrics, a Div. of North American Aviation, Inc., 3370 East Anaheim Rd., Anaheim, Calif. 92903 / 714-772-8111 / *C 64
General purpose digital computers, special purpose digital computers, digital differential analyzers, special purpose analog computers / RMCa Ls(25,31) Le(1929 NAA) DAic
- Auto-Trol Corp., 14500 W. 82 Ave., Arvada, Colo. / 303-421-3726 / *C 64
Scalers for photogrammetry and mapping; high speed serial printers, digital plotters, card readers / RMA Ss Se(1957) Ic
- Avery Label Co., 1616 S. California Ave., Monrovia, Calif. / 358-2324; 691-3421 / *C 63
Pressure-sensitive pin-feed labels for use in data processing / MSA Ms(500) Me(1935) Ic
- Avionic Division/John Oster Mfg. Co., 1 Main St., Racine, Wisc. / 414-636-4445 / *C 64
Resolvers, synchros, and servomechanisms / RMSCa Ms(550) Le(1924 company) Ic
- Avtron Manufacturing, Inc., 10409 Meech Ave., Cleveland 5, Ohio / 641-8310 / *C 64
Design, development and manufacture of special and general digital indication/control equipment; solid-state power computers and multipliers; semi-automatic test equipment / RMCa Ms(75) Se(1954) Dic
- B**
- Babcock Electronics Corp., 1640 Monrovia Ave., Costa Mesa, Calif. / Liberty 8-0611 / *C 64
Command control and guidance systems including receivers, transmitters, encoders, decoders, signal generators and support equipment / RMSa Ls(1000) Me(1947) Ic
- Bailey Meter Co., 29801 Euclid Ave., Wickliffe, Ohio 44092 / 943-5500 / *C 64
Automatic control equipment, special purpose computers, data processing equipment, analog and digital information systems / RMSa Ls(2000) Le(1916) DSCc
- Baldwin Electronics, Inc., 1101 McAlmont, Little Rock, Ark. / 501-FR 5-7351 / *C 64
Photoelectric analog to digital shaft-position encoders / RMA Ms(215) Se(1953) Ic
- Basic & Experimental Physics, 133 Palmer, Box 699, Falmouth, Mass. / KI 8-2175 / *C 63
Digital computer programming, numerical analysis, design of analog and digital real-time control, data processing / RCA Ms(230) Se(1953) DAic
- Basic Systems, Inc., 2900 Broadway, New York, N.Y. / UN 6-2410 / *C 63
Training products and services using programmed instruction for computer field; off-the-shelf programs in "PERT" AND "Required COBOL-1961"; application of behavioral science to industrial training systems; custom contract and consulting services / C(involving training) Ms(100) Se(1960) Ic
- 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 / Ra Ls(2300) Le(1929) DAISCMc
- 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 decommutation equipment; analog and digital data systems and components / RMSGa Ls Me DAISCC
- Beckman & Whitley, Inc., 993 E. San Carlos Ave., San Carlos, Calif. / - / *C 64
Photo optical systems / MSA Ss ?s Ic
- Beemak Plastics, 7424 Santa Monica Blvd., Los Angeles, Calif. 90046 / 213-876-1770 / *C 64
Plastic holders for punched cards / Ma Ss(25) Se(1952) Ic
- Bell & Howell Micro-Data Div., 7100 McCormick Rd., Chicago 45, Ill. / AM 2-1600 / *C 63
Microfilm recorders and readers designed to complement computer and tab printers / RMS(servicing) a Ss Se(1961) Ic
- Belock Instrument Corp., 112-03 14th Ave., College Point, L.I., N.Y. 11356 / 516 HI5-4200 / *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 / RMCa Ls(975) Me(1950) AISCc
- The Bendix Corp. - Bendix-Pacific Div., 11600 Sherman Way, No. Hollywood, Calif. 91605 / 213-765-1010 / *C 64
Telemetry, components, subsystems and systems / RMA Ls(2900) Me(1937) DAic
- The Bendix Corp., Bendix Systems Div., 3300 Plymouth Rd., Ann Arbor, Mich. / 665-7765 / *C 63
Bendix G-20 computer service bureau facility / RCA Ls(900) Se(1957) Dic
- The Bendix Corp., Eclipse-Pioneer Div., Teterboro, N.J. 07608 / Atlas 8-2000 / *C 64
Airborne digital computers, analog-to-digital converters, resolvers, motor generators, memory storage devices, automatic and manual check-out systems / RMSa Ls(9000) Le(1916) DAic
- Bendix Corp., Industrial Controls Div., 8980 Hubbell Ave., Detroit, Mich. 48228 / 272-3710 / *C 64
Special purpose digital computers for the control of machine tools / RMSCa Ms(300) Se(1957) Dc
- 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 / RCA Ls(700) Le(1929) DASCMc
- Benson-Lehner Corp., 14761 Califa St., Van Nuys, Calif. / 213-574-1700 / *C 64
Data reduction, handling and translating equipment: record readers (oscillographic, film, etc.), data storage and retrieval machines; 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. / RMSa Ms(200) Me(1950) Dic
- Berg Electronics, Inc., 142 Reno St., New Cumberland, Pa. / YE 8-6711 / *C 64
Strip connectors, solderless terminals, automatic assembly equipment / MSA Ms(140) Me(1950) Ic
- Edmund C. Berkeley and Associates, 815 Washington St., Newtonville 60, Mass. - discontinued. Courses no longer offered.
- Berkeley Enterprises, Inc., 815 Washington St., Newtonville, Mass. 02160 / 617 DECatur 2-5453 or 2-3928 / *C 64
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 / RMSa Ss(12) Se(1954) Dc
- Bethlehem Instrument Co., Inc., Prospect & Conestoga Sts., Bethlehem, Pa. / UN 6-0777 / *C 63
Electrical indicating instruments / Ma Ss(45) Se(1958) Ic
- B and F Instruments Inc., 3644 North Lawrence, Philadelphia 40, Pa. / 215-GA-5-4175 / *C 64
Strain gage conditioning and plotting systems, X-Y plotters, low speed data acquisition systems / Ma Ms(100) Me(1950) Ic
- Ernest E. Blanche & Associates, Inc., 10335 Kensington Parkway, Kensington, Md. / 949-0500 / *C 63
Data processing, 1401 with 4 magnetic tapes, 42 IBM punch card machines; mathematical and statistical work / RC(computing and data processing) Ms(105) Se(1955) Ic
- Bonner & Moore Associates, Inc., 500 Jefferson St., Houston 2, Tex. / CA 8-0871 / *C 63
Consulting and research in operations research, economics, systems engineering, process control, computer applications and programming (proprietary linear programming and general data reduction packages for several machines) / RCPa Ss(200) Se(1955) DASC
- Boonshaft & Fuchs, Div. of Daystrom, Inc., Harbor Industrial Park, Hattboro, Pa. / OS 2-1240 / *C 64
Sine, transient and random computer analyzers, servo computer control systems, statistical computers / RMA Ms(100) Se(1959) DAISCC
- Booz, Allen Applied Research Inc., 135 S. LaSalle St., Chicago 3, Ill. Offices also in Bethesda, Md., and Cleveland, Ohio / FRanklin 2-1728 / *C 63
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 / RCA Ms(200) Se(1955) Ic
- 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) / Financial 6-1900 / *C 64
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 / CPA Ms(400) Le(1914) Ic
- Bourns, Inc., Trimpot Div., 1200 Columbia Ave., Riverside, Calif. / - / *C 64
TRIMPOT[®] potentiometers, adjustment and precision types as well as relays; new micro-components (inductors, transformers, capacitors, and resistors as discrete components or on ceramic substrates) / Ma Ls(1300) Me(1948) Ic
- Bowmar Instrument Corp., 8000 Bluffton Rd., Ft. Wayne, Ind.; TIC Div. of Bowmar, Acton, Mass.; Acton Laboratories, Inc. (subsidiary), Acton, Mass.; TIC of Calif. (subsidiary), Newbury Park, Calif. / 219-747-3121 / *C 64
Precision servo components and assemblies, counters, electronic devices, measurement and test instruments, solid state digital computer read-outs / RMA Ls(1000, including subsidiaries) Me(1951) Ic
- W. H. Brady Co., 727 W. Glendale Ave., Milwaukee 9, Wis. / ED 2-8100 / *C 64
Data processing labels, key punch correction seals, computer tape contact tabs, tape reel labels / Ma Ss Le(1914) Ic
- Brand - Rex Division, American Enka Corp., 31 Sudbury Rd., Concord, Mass. / 369-9630 / *C 64
Wire, cable, electrical insulating materials / RMSa Ls(1000) Le(1920) Ic
- Brandon Applied Systems, Inc., 30 East 42nd St., New York, N.Y. 10017 / YU 6-1518 / *C 64
Specialized consulting services to users and manufacturers, including educational services, programming services, and complete data processing standards services / Ca Ss(9) Se(1956) Ic
- Richard D. Brew and Co., Inc., 90 Airport Rd., Concord, N.H. 03302 / 225-6655 A/C 603 / *C 64
Delay lines / RMSa Ms(120) Me(1945) Ic
- The Bristol Co., P.O. Box 1790 CAG, Waterbury, Conn. 06720 / 756-4451 / *C 64
Electronic and potentiometric recording, indicating, controlling, signalling; alarm and telemetering instruments for standard and special functions; components including choppers, high speed relays, capsular elements, remote positioners, pressure switches and transducers; miniature standard and special socket screws; recording papers; data logging equipment / RMSa Ls(over 1000) Le(1889) Ic
- Brooks Instrument Co., Inc., 407 W. Vine St., Hatfield, Pa. / 215-855-5174 / *C 64
Flow meters, variable area, turbine, and positive displacement with associated readout and control equipment / MSA Ms(250) Me(1946) Ic
- Bryant Computer Products, Div. of Ex-Cell-o Corp., 850 Ladd Rd., Walled Lake, Mich. 48088 / Market 4-4571 / *C 64
Magnetic storage drums, magnetic disc files, fixed and flying magnetic recording heads, electronic systems, and electronic circuit modules / RMA Ms(296) Se(1952) Ic
- Bulova Watch Co., Inc., Systems and Instruments Div., 62-10 Woodside Ave., Woodside, N.Y. 11377 / 212 NE 9-5700 / *C 64
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 / RMA Ms(500) Me(1950) ISCC
- The Bunker-Ramo Corp., 8433 Fallbrook Ave., Canoga Park, Calif. 91304 / 346-6000 / *C 64
Industrial process control computers. Digital computers for on-line real time control; peripheral equipment; display devices; information system design / RMSa Ls(1500) Se(1964) DCic
- J. H. Bunnell & Co., 81 Prospect St., Brooklyn 1, N.Y. / ULster 8-0100 / *C 64
Tape punch / MSA Ss(45) Le(1873) Ic
- Burlingame Associates, Ltd., 510 S. Fulton Ave., Mt. Vernon, N.Y. / MO 4-7530 / *C 64
Analog computers, computing amplifiers and power supplies, analog recorders, analog-to-digital converters, digital voltmeters / Sa Ss(40) Le(1928) DAic
- Burr-Brown Research Corp., 425 So. Plumer, Box 6444, Tucson, Ariz. 85716 / 602-623-0328 / *C 64
Operational amplifiers, electronic integrators, electronic function generators / Ma Ms(50) Se(1956) Ic
- Burroughs Corp., 6071 Second Ave., Detroit 32,

Roster of Organizations

Mich. / 875-2260 / *C 63
 Burroughs 5000, 205, 220 and B200 series (250, 260, 270, 280) electronic data processing systems and digital computer components; also the E101 and E103 desk-size electronic digital computers for scientific and general business uses, respectively; specialized punched card input-output systems; card-to-paper-tape conversion equipment; magnetic tape storage systems; tape handlers, keyboards, magnetic tape filing systems and tape recorders, paper tape and card readers and punches. Adding machines, bookkeeping machines, multiple tape listers, high speed printers, photo readers, etc. / RMSCa Ls(37,000) Le(1886) Dlc

Burroughs Corp., Ann Arbor Lab., 7330 Huron River Dr., Dexter, Mich. / 313-426-5111 / *C 64
 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 / RMSCa Ms(100) Se(1955) Ic

Burroughs Corp., Electronic Components Div., P.O. Box 1225, Plainfield, N.J. / PL 7-5000 / *C 64
 NIXIE[®] Indicator Tubes, Spherulitic Optic Displays, magnetic thin film memory planes, memory stacks and systems, BEAM-X[®] switches and modules, ferrite cores, semiconductor BIPCO[®] modules / MSa Ms(500) Se(1955 division) Ic

Business Automation, 288 Park Ave. W., Elmhurst, Ill. / Terrace 4-9350 / *C 63
 Monthly magazine devoted to business automation and data processing for corporate and middle management. Covers systems, machine accounting communications and use of business forms for management in all types of industry, commerce, institutions and the government / MS (publishing) a Ms(60) Le(1904) Dac

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 / CSA Ss(9) Se(1955) Dlc

Butler Roberts Associates, Inc., Subsidiary of Oki Electric Industry Co., Ltd., 202 E. 44th St., New York 17, N.Y.; 500 S.E. 24th St., Ft. Lauderdale, Fla. / New York: MU 2-2989; Florida: JA 3-7202 / *C 64
 High speed line printer / Ma Ls(12,000) Le(1881) Ic

Bytrex Corp. -- name changed to Schaevitz-Bytrex Corp., which see

tape handling. Nation-wide service / C(data processing services) a Ms(55) Me(1943) Ic
 Carlton Controls Corp., 15 Sagamore Rd., Worcester 5, Mass. / 756-7158 / *C 64
 Numerical control systems / RMSa Ss(10) Se(1957) Cc

CBS Laboratories, a Div. of Columbia Broadcasting Systems, Inc., High Ridge Rd., Stamford, Conn. / 203-325-4321 / *C 64
 VIDIAC and LINOTRON character generation, computer photocomposers, display systems and consultation / RMSa Ms(300) Me(1936) Ic

C-E-I-R, Inc., 1 Farragut Square So., Washington 6, D.C. / Executive 3-1111 / *C 64
 IBM 7090's, 7094's, and 1401's / RSC(computing services bureaus, consultants computing technology and management sciences) a Ls(1000) Se(1954) Dlc

CENTRALAB, the Electronics Div. of Globe-Union Inc., P.O. Box 591, Milwaukee, Wis. 53201 / WO 2-9200 / *C 64
 PEC[®] integrated circuits -- typical functions: flip-flop, NOR gate, pulse shifter, pulse stretcher, TTL NAND, monostable multivibrator. Also produce ceramic capacitors, variable resistors and rotary switches / Ma Ls(3000) Le(1928) Ic

Century Electronics & Instruments, Inc. 6540 E. Apache St., Tulsa 15, Okla. / 910-TE 5-9951 / *C 63
 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 / RMa Ms(650) Me(1945) Ic

CG Electronics Div., Gulton Industries, Inc., 1500 Central Ave., East, Albuquerque, N. Mex. 87108 / 505-299-7601 / *C 64
 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 forming systems; digital serializers and visual readout devices; printed circuits, microwelded, copper deposition modules / RMSa Ms(155) Se(1954) Dlc

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

Chalco Engineering Corp., 15126 S. Broadway, Gardena, Calif. / Faculty 1-0121 / *C 63
 Punched tape readers / RMa Ms(60) ?e Ic

Chicago Switch Div., F & F Enterprises, Inc., 1733 Milwaukee Ave., Chicago, Ill. 60647 / 276-8121 / *C 64
 Panel switches, illuminated panel switches / Ma Ss(35) Se(1954) Ic

Chrono-log Corp., 2503 West Chester Pike, Broomall, Pa. 19008 / Elgin 6-6771 / *C 64
 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 / MSa Ss(10) Se(1956) Dc

Cinch Manufacturing Co., 1026 S. Homan Ave., Chicago 24, Ill. / NE 2-3000 / *C 64
 Connectors / RMSa Ls(1100) Le(1920) Ic

The Cincinnati Time Recorder Co., 1733 Central Ave., Cincinnati 14, Ohio / - / *C 63
 Timing devices, data collection systems / RMSCa Ms(300) Le(1896) Ic

Circuit Engineering, 102 Ellis Rd., Weston 93, Mass. / Twinbrook 4-6071 / *C 63
 Consultants. Transistor, magnetic, electronic, conductive, and other information handling circuits / Ca Ss(1954) Ic

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 / Ma Ss(40) Se(1956) Ic

C. P. Clare & Co., 3101 W. Pratt Blvd., Chicago 45, Ill. / AM 2-7700 / *C 64
 Sealed contact reed relays, mercury wetted contact relays, telephone type relays, stepping switches / RMa Ls(1600) Me(1937) Ic

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 / Ma Ms(120) Me(1946) Ic

Claroast Mfg. Co., Inc., Washington St., Dover, N.J. 03820 / 603-742-1120 / *C 64
 Precision potentiometers (wirewound and composition element), switches, wirewound power resistors / RMSCa Ls(1400) Le(1922) Ic

Clary Corp., 408 Junipero St., San Gabriel, Calif. / Cumberland 3-2724 / *C 64
 Solid state scientific computers, arithmetic center, high-speed line printers, solenoid printers, graphic arts products, construction automation machinery, missile components and tape perforating equipment / MSa Ms(314) Me(1939) Dlc

Clevite Corp., Semiconductor Div., 200 Smith St.,

Waltham, Mass. 02154 / 617-894-7700 / *C 64
 Semiconductor devices / RMa Ls(1000) Se(1953) Ic

Clifton Precision Products, Div. of Litton Precision Products, Inc., Marple at Broadway, Clifton Heights, Pa. / 215-Madison 2-1000 / *C 64
 Computer components / Ma Ls(1200) Me(1945) DAlc

Codamite Corp., P.O. Box 2914, Anaheim, Calif. / 714-774-4707, 714-776-5432 / *C 63
 Code generators and transistors / RMSCa Ss(30) Se(1962) Ic

Cognitronics Corp., 519 Pleasantville Rd., Briarcliff Manor, N.Y. / RO 9-7900 / *C 64
 General purpose programmable computers for graphic arts; magnetic memory drum systems. Digital to audio outputs / RMSCa Ss(25) Se(1961) Dlc

Cohu Electronics, Inc., Kin Tel Div., P.O. Box 623, San Diego, Calif. 92112 / 277-6700 / *C 64
 Digital data logging systems and systems components / RMSa Ms(300) Me(1945) Dlc

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 / MSa Ms(100) Se Dlc

Collins Radio Co., Dallas, Tex. / AD 5-9511 / *C 63
 Communication oriented data processors and peripheral equipment including high speed data transmission devices / RMSCa Ls(16,000) Me(1933) Dlc

Collins Radio Co., Information Science Center, 19700 San Joaquin Rd., Newport Beach, Calif. / Kimberly 902311 / *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 / RMS (marketing) a Ls(1000) Me(1950) Dlc

Colorado Instruments, Inc., Garden Office Center, Broomfield, Colo. / 303-466-7333 / *C 64
 Digital data acquisition systems (special-purpose, designed to meet customer requirements) and computer data entry keyboards (C-DeK) / RMa Ss(25) Se(1961) Dlc

Columbia Ribbon & Carbon Mfg. Co., Inc., Herhill Rd., Glen Cove, N.Y. / OR 6-2730 / *C 64
 Fabric and smudge proof film base ribbons for high speed printers and other data processing equipment, continuous duplicating masters, spirit and offset / RMSa Ls(800) Le(1905) Ic

Columbia Technical Corp., 24-30 Brooklyn-Queens Expressway West, Woodside, N.Y. 11377 / 212-YE 2-0900 / *C 64
 Delay lines / Ma Ms(60) Me(1950) Ic

Comcor, Inc., 430 S. Navajo St., Denver 23, Colo. / 777-3066 / *C 63
 Development, manufacture and sales of components and systems for computers, controls and data handling / RMS (computer maintenance and modernization) a Ms(77) Se(1959) DAlc

Components Corp., 106 Main St., Denver, N.J. / 201-627-0290 / *C 63
 Decade counting units -- DIGI-KLIPS[®] (Printed circuit connectors) / Ma Ss(10) Me(1943) Ic

Computatix, Inc., 1430 Olive St., St. Louis, Mo. 63103 / CA 1-3236 / *C 64
 Consultants on all computers including systems and procedures, data processing on the LCP-30, IBM 702, IBM 705, IBM 7090, IBM 7072, IBM 7094, IBM 1401 / C (service) a Ms(75) Se(1956) DAlc

COMPUTER ASSOCIATES, INC., Lakeside Office Pk., Wakefield, Mass. / 617-245-9340 / *C 64
 Research, development, production, and consulting activities in digital computer programming, including: utility programs and packages, compilers and assemblers, programming and operating systems, command and control systems, information storage and retrieval systems, artificial intelligence, and scientific and commercial applications / RMCPa Ss(30) Se(1961) Ic

Computer Components, Inc., 89-06 Van Wyck Exp., Jamaica 18, N.Y. / - / *C 64
 Relays / MSa ?s ?e Ic

Computer Consultants Ltd., 3 Cecil Court, London Rd., Enfield, Middlesex, England / ENFIELD 7185, 9219; cable "COMPUTERS ENFIELD" / *C 64
 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. / Ca Ss(20) Se(1957) Ic

Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. / 875-6185 / *C 64
 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; 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 / RMSa Ls(1200) Se(1952) Dlc

Roster of Organizations

- Computer Devices Corp., 6 West 18th St., Huntington Sta., N.Y. 11746 / 516-AR 1-0666 / *C 64
Serial memories (wire sonic delay line type); other delay lines for trim and time adjustment; word generators / Ma Ss(25) Se(1961) Ic
- Computer Dynamics Corp., Subsidiary of the Teleprinter Corp., 1104 Spring St., Silver Spring, Md. / - / *C 64
Consulting services and programming services / RCa ?s ?e Ic
- Computer Engineering Associates, an affiliate of Susquehanna Sciences, Inc., 350 N. Halstead St., Pasadena, Calif. / Elgin 5-7121 / *C 63
Direct analog computer, specialists in complex structural analysis / RMSCa Ss(35) Se(1954) Ac
- Computer Laboratories, Inc., 7015 Gulf Freeway, Houston, Tex. / MI 4-1671 / *C 63
Scientific and business data processing on hourly or contract basis. Programming and consulting services. Problem definition to finished report. Digital plotting from on-line plotter / RSC (computer programming) a Ss(28) Se(1961) Ic
- Computer Logic Corp., 11800 Olympic Blvd., Los Angeles 64, Calif. / Granite 9-3318 / *C 64
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 / RMSCa Ss(12) Se(1960) DICc
- Computer Methods Corp., 107 Mamaronck Ave., White Plains, N.Y. / RO 1-1998 / *C 64
Specialists in real-time data processing, communications, information systems and simulation techniques / RCa Ss(16) Se(1961) Ic
- Computer Personnel Consultants, Inc., 135 S. LaSalle St., Chicago, Ill. 60603 / 236-0900 / *C 64
Recruitment of and searches for computer and O/R personnel; computer personnel appraisal; and computer personnel and data processing department organization consulting / RC (personnel recruiting and searches) a Ss(5) Se(1964) Ic
- Computer Products Inc., 1717 "F" 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 / RMSCa Ms(135) Ss(1961) AIC
- Computer Usage Co., Inc., 655 Madison Ave., New York 21, N.Y. (also Washington, D.C.; Los Angeles, Calif.; Palo Alto, Calif.; Newon Upper Falls, Mass.) / 212-PL 2-5900 / *C 64
Analysis and programming, all digital computers; machine time rental, various systems / RC (application development) a Ms(275) Se(1955) Ic
- Computers and Automation, 815 Washington St., Newtonville, Mass. 02160 / 617-DE 2-5453 or 2-3928 / *C 64
Magazine dealing with the design, applications, and implications of information processing systems, including automation; published monthly by Berkeley Enterprises, Inc. / MSA Ss(12) Me(1951) Ic
- Computing Services Co., Div. of KCS Ltd., 20 Spadina Rd., Toronto 4, Ont., Canada / 416-927-1633 / *C 64
Computing services on B280 and B5000 / Ca Ms(100) Se(1954) DIC
- Comptron Inc., 122 Calvary St., Waltham, Mass. 02154 / 617-TW9-0880 / *C 64
Magnetic tape for computers and instrumentation exclusively / RMsA Ms(140) Se(1960) Ic
- COMPRESS (Computer Research Systems and Software), Inc., 2120 Bladensburg Rd., N.E., Washington, D.C. 20018 / 202-529-0360 / *C 64
Development of software packages. 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 / RSC (development and marketing of proprietary software) a Ss(14) Se(1962) Ic
- 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) / MC (development of customer products) a Ss(20) Se(1960) Ic
- Consolidated Avionics Corp., 800 Shames Dr., Westbury, N.Y. / 516-ED 4-8400 / *C 64
Manufactured power supplies, automatic test equipment, digital systems, logic modules, special magnetostrictive delay lines ("Vari-bit"); magnetic card readers, engine generator control modules / RMs Ms(150) Se(1957) DAIC
- Consolidated Electrodynamics Corp., 360 Sierra Madre Villa, Pasadena, Calif. 91109 / 796-9381 / *C 64
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 / RMsA Ls(3000) Me(1937) DAC
- Consolidated Ohmic Devices, Inc., 900 Third Ave., New Hyde Park, N.Y. / Hunter 8-1606 / *C 63
Precision wire wound resistors / Ma Ms(100) Se(1957) Ic
- 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 / MSCa Ls(700) Se(1954) DICc
- Continental Connector Corp., 34-63 56th St., Woodside 77, N.Y. / TW9-4422 / *C 64
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 / RMsA Ms(500) Se(1952) Ic
- Control Data Corp., 8100 34th Ave. So., Minneapolis 20, Minn. / 888-5555 / *C 64
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 / RMS (data processing services) a Ls(5100) Se(1957) DASc
- Control Data Corp., Control Systems Div., 4455 Miramar Rd., La Jolla, Calif. / 714-453-2500 / *C 64
Control Data 636 computer control systems, analog controllers, electric actuators, mag sense R RMsCa Ms(225) Se(1956) ICc
- Control Equipment Corp., 19 Kearney Rd., Needham Heights 94, Mass. / 617-444-7550 / *C 63
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 / Ma Ss(25) Se(1956) DIC
- Control Logic, Inc., 3 Strathmore Rd., Natick, Mass. / 655-1170 / *C 64
Welded digital circuit modules; data and control systems; digital training systems / Ma Ms(70) Se(1961) Ic
- Controlomag Laboratories, 2459 Susquehanna Rd., Roslyn, Pa. / 215-884-8093 / *C 64
Custom digital counters and controls / Ma Ss(18) Me(1951) DC
- Control Systems Corp., 5150 Duke St., Alexandria, Va. / - / *C 63
Decoders, encoders / Ma ?s ?e Ic
- Control Technology, Inc., 1232 Belmont Ave., Long Beach 4, Calif.; 194 Nassau St., Princeton, N.J. / Long Beach: 213-433-3360; Princeton: 609-921-2617 / *C 63
Consulting, research and development studies, analysis, programming, training, systems engineering; on-line computer control, data processing, simulation, scientific computation / RCPa Ss(21) Se(1960) DAICc
- Controls Co. of America, Control Switch Div., 1420 Delmar Drive, Folcroft, Pa. / 215-LU6-7500 / *C 63
Complete line of switches and indicator lights / MSA Ls(510) ?e Ic
- Contronics Inc., 43 Leon St., Boston, Mass. 02115 / HI 2-8080 / *C 64
Alpha-numeric display equipment / RMA Ss(15) Se(1959) Ic
- Cook Electric Co., Data-Store Div., 8100 N. Monticello, Skokie, Ill. / OR 3-9200 / *C 64
Digital magnetic tape recorders, photoelectric punched tape readers, analog magnetic tape recorders, incremental digital magnetic tape recorders, miniature magnetic tape recorders, magnetic drum recorders, for both military and commercial applications / Ma Ms(200) Se(1957) Ic
- Copy Research Corp., 875 W. Fifteenth, Newport Beach, Calif. / KI 5-5731 / *C 63
KALCON 201 Film Duplicator / RMA Ss(10) Se(1960) Ic
- Copyrite Duplicator & Supply Co. Inc., 1201 Cortland St., Chicago 14, Ill. / Diversey 8-2711 / *C 63
Spirit duplicators, hand and electric, various models / Ma Ss(40) Me(1935) Ic
- 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 rotors, inverters, test instruments, packaged circuits and systems / RMs Ls(4000) Le(1910) Ic
- Corning Electronics, Corning Glass Works, 3900 Electronics Drive, Raleigh, N.C. / 919-828-0511 / *C 64
Electronic components, microcircuits, capacitors, ultrasonic delay lines, resistors, metallized glass components, fluid amplifiers, electronic devices, instruments and controls, packages and substrates for microcircuits / RMsCa Ls(3000) Le(1851) DAIC
- Corning Glass Works, Bradford, Pa. / - / *C 64
Glass memories, computer components, microcircuits, matrix boards / Ma ?s ?e Ic
- 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 / RMsA Ms(400) Me(1939) Ic
- Creed & Co., Ltd. (assoc. of IIT Corp.), Creed House, 8 Hinde St., London W.1., England / WELbeck 9121 / *C 64
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 / RMsA Ms(2500)
- Le(1909) DIC
- Crystalonics Inc., 147 Sherman St., Cambridge 40, Mass. / 617-491-1670 / *C 63
Semiconductors, solid circuits / RMA Ms(100) Se(1958) Ic
- James Cunningham, Son & Co., Inc., 10 Carriage St., Honeoye Falls, N.Y. / 716, Honeoye Falls 486 / *C 64
Scanners, switches, scanning and switching systems, video and high frequency applications for special requirements / Ma Ms(125) Le(1838) Ic
- 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 / RMSCa Ss(30) Se(1960) DICc
- Cycle Equipment Co., 17400 Shelburne Way, Los Gatos, Calif. / 356-6196 / *C 64
Tape winders, unwinders, feeders and transports for handling perforated paper tape / Ma Ss(6) Me(1948) Ic
- Cycle Transformer Corp., 356 Glenwood Ave., East Orange, N.J. / OR 4-0731 / *C 64
Transformers, relay coils, voltage regulators / Ma Ms(50) Me(1940) Ic
- D
- Daniel, Mann, Johnson & Mendenhall, 3325 Wilshire Blvd., Los Angeles 5, Calif. / DWnkirk 1-3563 / *C 63
System design for military, commercial and industrial needs. Consulting services in the system and automation field. Design, evaluate, implement, train, supervise conversion to automated systems / RC(education) a Ms(400) Me(1948) Ic
- Dashew Business Machines, Inc., 3655 Lenawee Ave., Los Angeles 16, Calif. / Upton 0-5376 / *C 63
Card readers, tape readers, data collection and transmission systems / RMsCa Ms(300) Me(1951) Ic
- The Data Center Corp., 3002 Midvale Ave., Los Angeles, 34, Calif. / 473-2323 / *C 64
Business applications programming, systems design, data processing services. Also equipment selection, site engineering, operations research / RCGP(data processing) a Ss(10) Se(1960) Ic
- Data Computing Corp., 229 Baldwin Rd., Hempstead, L.I., N.Y. / - / *C 64
Serves approximately 200 companies in the metropolitan New York area as their data processing and computing agency. Uses latest IBM equipment / RC(IBM services) a Ms(60) Se(1955) DIC
- Data Display, Inc., 1020 Como Ave., St. Paul, Minn. / 612-646-6371 / *C 64
Cathode ray tube display systems and input devices for digital computers / RMsA Ms(185) Se(1950) Ic
- Data Processing Consultants, Inc., 375 Park Ave., New York 22, N.Y. / PL 3-4260 / *C 64
Management counsel in systems analysis, equipment evaluation, organization and facilities planning; personnel recruitment, selection and training; and installation programs for electronic computer and other automatic data processing systems in business, industry and government / RCPa Ss Se(1951) DIC
- Data Processing Corp. — name changed to Fedder Electronics Corp., which see
- Data Processing Corporation of America, 375 Park Ave., New York 22, N.Y. / Plaza 3-4260 / *C 64
Management and operation of data processing systems service centers, including programming and electronic computer services / RCPa Ss Se(1958) DIC
- Data Processing Digest, Inc., 1140 S. Robertson Blvd., Los Angeles 35, Calif. / Bradshaw 2-8425 / *C 64
Publishers of "Data Processing Digest" / Sa Ss(5) Se(1954) Ic
- Data Processing Employment Service, 1343 H St., N.W., Washington 5, D.C. / 393-1488 / *C 63
Recruiting, screening and selection of data processing personnel / (employment services) a Se(7) Se(1962) Ic
- Data Processing Equipment Exchange Co., 366 Francis Bldg., Louisville, Ky. / GL 1-7547, JU 5-5454 / *C 64
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 / Sa ?s ?e Ic
- Data Processing, Inc., 1334 Main St., Waltham, Mass. 02154 / 617-899-2000 / *C 64
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 / Ca Ss(12) Se(1957) Ic
- Data Systems Analysts, Inc., 5900 Westfield Ave., Pennsauken, N.J. / 665-6088 / *C 64
Programming and computer system definition mainly for real time systems and communications / C(programming) a Ss(10) Se(1963) Ic
- Data Systems Devices of Boston Inc., 312 Westmore Ave., Boston 35, Mass. / AL 4-0440 / *C 63
High-speed printers, custom research and development in all phases of digital computer peripheral equipment / RMA Ss(20) Se(1962) Ic
- Data Tech, 127 Coolidge Hill Rd., Watertown, Mass. 02172 / 617-924-1773 / *C 64
Shaft encoders, electronic counters, digital

Roster of Organizations

- positioning servos, rotary transformers /
RMCa Ss(20) Se(1960) Ic
- Data Trends, Inc., 1259 Route 46, Parsippany, N.J. /
201-331-1515 / *C 64
- 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 / RMSCa
Ss Se(1962) Ic
- Dataman Associates, 120 Bolyston St., Boston 16,
Mass. / - / *C 64
- Personnel consulting / Ca Ss(8) Se(1959) Ic
- Datamec Corp., 315 Middlefield Rd., Mountain View,
Calif. / 415-968-7291 / *C 64
- Digital magnetic tape units; low cost electro-
mechanical computer peripherals including in-
put/output devices / RMsA Ss(45) Se(1961) Ic
- Datapulse Inc., 509 Hindry Ave., Inglewood 1, Calif. /
ORchard 1-7713, ORegon 8-3993 / *C 64
- Test instrumentation: pulse generators, data
simulators / RMsA Ss(30) Se(1961) Ic
- Datatorl Corp., 8115 Fenton St., Silver Spring, Md. /
JUniper 7-4366 / *C 63
- Counseling and programming services for applica-
tion on digital computers; information stor-
age and retrieval, feasibility studies, stand-
ard business systems, software systems, pro-
gramming for real-time applications / Ca
Ms(100) Se(1960) Ic
- Datex Corp., 1307 S. Myrtle Ave., Monrovia, Calif. /
ELIott 9-5301 / *C 64
- Analog-to-digital shaft position encoders, auto-
matic controls, data recording and control sys-
tems, card readers, printers, meteorological
recording systems, servo positioning and con-
trol systems, stress analysis and computing
systems, numerically controlled machine tools,
telemetry supervisory and control systems, pro-
cess control systems, digitizing and recording
of data in scientific instrument. Design and
development of all types of digital equipment
for industrial and military applications / RMa
Ms(250) Se(1952) DAIScC
- Davidson Electronic Development Co., 2211 Peninsula
Drive, Erie, Pa. 16505 / 814-833-9818 / *C 64
- Input consoles / MC(system input devices)a
Ss(10) Me(1951) Ic
- Daystrom, Inc., Weston Instruments & Electronics
Div. — name changed to Weston Instruments &
Electronics, which see
- Dayton Electronic Products Co., 117 E. Helena St.,
Dayton 4, Ohio / 224-1416 / *C 64
- Pordilab, plug in modules / RMSCa Ms(95)
Se(1953) Ic
- DFC Systems Ltd., Malton, Ontario, Canada /
416-677-3690 / *C 64
- Systems analysis and operations, systems engi-
neering and systems management / R(systems
engineering)a Ss(30) Se(1961) Ic
- DECCO, Inc., 2025 Farrington, Dallas, Tex. /
RI-7-5959 / *C 64
- Transformers and filters / Ma Ss(15) Se(1957)
Ic
- Defiance Printed Circuit Corp., 144 Commercial St.,
Malden, Mass. 02148 / DA 4-8250 / *C 64
- Etched wiring boards and associated design
services / Ma Ms(75) Se(1954) Ic
- The de Havilland Aircraft of Canada, Ltd., Special
Products & Applied Research Div., Malton, Ontario,
Canada / 416-677-4411 / *C 63
- Research, analysis, design, development, test,
manufacture, repair and overhaul of diversified
range of products including infrared fuzing and
acquisition systems; airborne radar systems;
optical devices; solid state power supplies;
magnetometers; cameras; film processors; aero-
space flight instruments; analog computers and
computer test equipment / RMa Ls Me A/c
- Delco Radio Div., General Motors Corp., 700 E.
Firmin St., Kokomo, Ind. / 312-GL 2-9211 / *C 64
- (Semiconductors) silicon and germanium power
transistors, silicon rectifiers, zener diodes;
digital circuits and support equipment; data
format converters; data acquisition and record-
ing systems; digital circuit modules to 10 mc.
speeds; special purpose digital systems; solid
state industrial control systems / RMsA
Ls(6000) Me(1936) ICc
- DELCOs, Inc., 360 Western Federal Bldg., Denver,
Colo. 80202 / 534-6291 / *C 64
- Engineering and accounting data processing /
SC(data processing)a Ss(35) Se(1953) Ic
- Delttime, Inc., 225 Hoyt St., Mamaronck, N.Y. / - /
*C 64
- Data storage sonic delay lines / Ma ?s ?e Ic
- Dennison Manufacturing Co., Machines Systems Div.,
300 Howard St., Framingham, Mass. 01702 /
617-873-3511 / *C 64
- Cummins-Dennison Dat-A-Read / RMsA Ls(3300)
Le(1844) Ic
- Denver Electronic Computing Service, Inc. — name
changed to DELCOS, Inc., which see
- G. C. Dewey Corp., 202 E. 44 St., New York 17, N.Y. /
212-MU 2-7369 / *C 63
- Data handling, formatting, logging and process-
ing / RMCa Ms(100) Se(1955) DICc
- Dialight Corp., 60 Stewart Ave., Brooklyn, N.Y.
11237 / 212-HYacinth 7-7600 / *C 64
- 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 /
Ma Ms(250) Me(1937) Ic
- Dialtron Corp., 203 Harrison Pl., Brooklyn 37, N.Y. /
HYacinth 7-7600 / *C 64
- Time delay relays for computers, data process-
ing and automation equipment / Ma Ms(230)
Me(1930) Ic
- Diamond Electronics, Diamond Power Specialty Corp.,
Box 415, Lancaster, Ohio / OL 3-6540 / *C 64
- CCTV systems and components, cameras, power
supplies, sync generators, switches, monitors;
color camera chains / Ma Ls(600) Me(1947) Ic
- Diamonite Products Mfg. Co., McConkey St. Ext.,
Shreve, Ohio / 216-547-4211 / *C 64
- Computer components of alumina ceramics, high
strength, low loss, high density, electrical
insulating, vacuum tight, readily metallized.
Sizes available, subminiature through normal
size requirements / RMsA Ms(175) Me(1940) Ic
- DI/AN Controls, Inc., 944 Dorchester Ave., Boston,
Mass. 02125 / 617-288-7700 / *C 64
- Buffer storages, core memories, high-speed
printers, special purpose digital and analog
computers, code and format converters, digital
computer elements, counters, magnetic and trans-
istor shift registers and logical elements,
airborne memories, clocks, programmers photo
composing systems / RMsA Ms(275) Se(1950)
DAISc
- Dian Laboratories, Inc., 611 Broadway, New York 12,
N.Y. / VI 6-4155 / *C 63
- D.C. analog computers — analog computing
services. Analog computing services; general
purpose analog computers. Design and construc-
tion of special purpose computers, simulators,
and trainers / RMsCpa Ss(10) Se(1955) Ac
- The Diebold Group, Inc., 430 Park Ave., New York 22,
N.Y. / 212-Plaza 5-0400 / *C 64
- Full range of integrated services in the fields
of modern management and management science.
Areas of specialization include automation,
automatic data processing, programming, informa-
tion technology, product and business planning
analyses. Subsidiary companies in 13 cities on
two continents / RC(training, publication)a
Ms(150) Me(1954) Ic
- Digital Development Corp., 7541 Eads Ave., La Jolla,
Calif. / 714-459-3383 / *C 64
- Rotating magnetic memory devices, memory systems,
special peripheral equipment, electro-optical
equipment / RMa Ms(70) Se(1959) Ic
- Digital Devices, Inc., 212 Michael Drive, Syosset,
L.I., N.Y. / 516-WA 1-2400 / *C 63
- Magnetostrictive delay line memory systems /
RMsCpa Ss(12) Se(1962) Ic
- Digital Electronics Inc., 2200 Shames Drive, West-
bury, N.Y. / 516-ED 3-2115 / *C 64
- General purpose computers, training computers,
data conversion equipment, computer test equip-
ment, magnetic tape systems / RMa Ms(50)
Se(1961) DIC
- Digital Equipment Corp., 146 Main St., Maynard,
Mass. / 617-TW 7-8822 / *C 64
- Solid state, general purpose digital computers,
memory test systems, special purpose systems,
and digital circuit modules / MSA Ls(560)
Se(1957) DIC
- Digitronics Corp., 1 Albertson Ave., Albertson,
N.Y. / - / *C 64
- Tape readers and handlers; Dial-o-verter termi-
nals; buffers and converters / MSA ?s ?e Ic
- Dimensions, Inc., 95 Madison Ave., Hempstead, L.I.,
N.Y. 11550 / - / *C 64
- Plotters / Ma ?s ?e Ic
- Ditto, Inc., 6800 N. McCormick Rd., Chicago 45,
Ill. / OR 5-7600 / *C 64
- Complete line of direct (Spirit) process and
offset process duplicating machines and sup-
plies; Masterfax master making and copying
machines and supplies; diazo and blueprint
machines and supplies. Designers of data pro-
cessing systems / RMsCpa Ls(1600) Le(1910) Ic
- Diversified Concepts, Inc., Becker Rd., Skaneateles
3, N.Y. / 315-636-7782 / *C 63
- MASCOT and COMPLITTER (test scoring machines);
UNIGATE (Universal Logic Module); consulting /
RMsCpa Ss(6) Se(1955) DIC
- 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 capabili-
ties; information searching, indexing and ab-
stracting — scientific information staff avail-
able / RSCa Ms(425) Me(1951) Ic
- Dolin Metal Products, Inc., 315 Lexington Ave.,
Brooklyn 16, N.Y. / NE 8-9472 / *C 64
- Build-up "Tape-Store" units for storage of elec-
tronic data processing tape / Ma Ms(70)
Me(1948) Ic
- Douglas Aircraft Co., Inc., Douglas Computer Serv-
ice, Dept. G-34, 3000 Ocean Park Blvd., Santa
Monica, Calif. / EXbrock 9-9311, ext. 2122 / *C 63
- Rental of excess digital computing machine time
on the wide range of business and scientific
computers (IBM 7094, 1620, and 1401 computers) /
RMa Ms(400) Se(1959) Dc
- Douglas Computing Service, 3000 Ocean Park Blvd.,
Santa Monica, Calif. / EX 9-9311 / *C 63
- Rental of excess digital computing machine
time on the wide range of business and scienti-
fic computers (IBM 7094, 1620, and 1401
computers) / RMa Ms(400) Se(1959) Dc
- Douglas Randall Inc., a subsidiary of Walter Kidde
& Co., Inc., 441 Pawcatuck Ave., Westerly, R.I.
02891 / 203-599-1750 / *C 64
- Reed relays, coils / MSA Ms Me(1950) Ic
- Drake Manufacturing Co., 4626 N. Olcott Ave., Chi-
cago, Ill 60655 / 867-7227 / *C 64
- Specialists in miniature lighting for computers
and automatic equipment. Products include in-
dicator and read-out lights, lampholders, metal
stampings, wire harnessing, brackets, neon and
incandescent lamps and other accessories. For
commercial or military projects / Ma Ms(cover
125) Le(1932) Ic
- Dresser Products Inc., 114 Baker St., Providence 5,
R.I. / 401-781-4430 / *C 64
- Accessories — tape handling equipment and
filing supplies / Ma Ss(8) Se(1955) Ic
- Duke University, Digital Computing Laboratory,
Durham, N.C. / 681-0111, Ext. 3695 / *C 64
- IBM 7072 and 1401 used for research and in-
struction / R(instruction)a Ss(16) Se(1958)
DIC
- Arnold I. Dumey, 29 Barberry Lane, Roslyn Heights,
N.Y. / Mayfair 1-7239 / *C 64
- Consultant, data handling problems / Ca Ss
Se(1954) DIC
- Durant Mfg. Co., 600 N. Cass St., Milwaukee, Wisc.
53201 / 271-9300 / *C 64
- Digital read-out instrument counters and in-
dicators / RMsA Ms(300) Le(1879) Ic
- Dymec Division of Hewlett-Packard Co., 395 Page
Mill Rd., Palo Alto, Calif. / 415-326-1755 / *C 64
- Digital instrumentation systems / Ma Ms(400)
Se(1956) Ic
- Dynatech Corp., 17 Tudor St., Cambridge, Mass.
02139 / 617-668-8050 / *C 63
- Automatic control, analysis, design, develop-
ment, and manufacturing / RCa Ms(91) Se(1957)
DICc

E

- Eastman Kodak Co., 343 State St., Rochester 4, N.Y. /
LOcut 2-6000 / *C 64
- Photographic equipment, staple synthetic and
organic chemicals and dyestuffs; facsimile
equipment (photocopy); recording paper /
RMsA Ls(50,000) Le(1889) Ic
- Ebasco Services Incorporated, 2 Rector St., New
York 6, N.Y. / Digby 4-4400 / *C 64
- Engineering and management consultants; con-
sulting services in application of electronic
data processing to accounting and business sys-
tems; engineering applications; plant automa-
tion; feasibility studies; installations / CPA
Ls(1600) Le(1905) DIC
- Editorial Services for Management, P.O. Box 222,
Concord, Mass. / EM 9-5946 / *C 64
- Consulting services in business forms-data pro-
cessing interface; editorial services in the
field of data processing including writing,
copy editing, layout and design, and produc-
tion / Ca Ss(3) Se(1962) Ic
- EDP Corp., 3501 South Orange Blossom Trail, Orlando,
Fla. / 305-241-5324 / *C 63
- Analog to digital converters, timing devices,
timing generators, logic circuits, test equip-
ment / MSA ?s ?e Ic
- Efcon Div., General Instrument Corp., Paterson
Place, Garden City, L.I., N.Y. / 516-PI 1-4200 /
*C 64
- Capacitors / Ma Ms(200) ?e Ic

ELCO CORP., Willow Grove, Pa. 19090 / 215-659-7000 /
*C 64

VARICON* Connectors, BI/CON* Connectors, MICRO-
CON* Connectors, MODICON* Micro-modules, VARI-
MATE* Connectors, VARIPLATE* Connectors, VARI-
PAK* Card Cages, E-Z MATE* Tube Sockets (*Trade
Mark) / RMSCGPBa Ms(497) Me(1947) Ic

- Eldema Corp., 18435 Susana Rd., Compton, Calif. /
- / *C 64
- Indicator lights / Ma ?s ?e Ic
- Eldorado Electronics, 601 Chalmar Rd., Concord,
Calif. / 415-686-4200 / *C 64
- Solid-state electronic counters and timers for
industrial and laboratory use, nuclear digital
time of flight systems, radar/laser ranging
equipment, picosecond time measurement instru-
ments / RMa Me(65) Se(1954) Ic
- Electric Indicator Co., Inc., Camp Ave., Stamford,
Conn. / 203-322-1671 / *C 64
- Sub-fractional and fractional A/C and D/C motors,
generators and blowers used in computers /
RMsCpa Ms(170) Le(1926) Ic
- The Electric Tachometer Corp., 68th & Upland Sts.,
Philadelphia, Pa. 19142 / 215-SA 6-7723 / *C 64
- Servomechanisms / Ma Ss(50) Le(1916) Sc
- Electro Instruments, Inc., 8611 Balboa Ave., San
Diego, Calif. 92112 / 714-277-6590 / *C 64
- Digital voltmeters, ohmmeters, ratiometers;
analog-to-digital converters; wideband DC
amplifiers, X-Y recorders, monitor oscillo-
scopes, digital data systems / Ma Ls(647)
Se(1954) DAC
- The Electro Motive Mfg. Co., Inc., S. Park & John
St., Willimantic, Conn. / 423-9231 / *C 64
- Capacitors: dipped mica, molded mica, silvered
mica films, mylar-paper dipped, paper dipped,
mylar dipped, tubular paper, variable mica /
Ma Ls(2200) Le(1926) Ic
- The Electro Nuclear Systems Corp., 949 Science
Center Drive, Minneapolis 27, Minn. — moved,
left no address.
- Electro Products Laboratories, Inc., 6125 W. Howard
St., Chicago (Niles), Ill. 60648 / 312-775-5220 /
*C 64
- Metal sensing transducers, over/under speed
controls, electronic tachometers / RMsA Ms(50)
Me(1936) DAIScC
- Electro Rack, 1341 So. Claudina, Anaheim, Calif.
92805 / 776-5420 / *C 64

Roster of Organizations

Computer consoles (cabinets) / Ma Ss(37) Se(1959) Ic
 N. V. Electrologica, 214 Stadhoudersplantsoen, The Hague, The Netherlands / 51-6141 / *C 64
 EL XI and EL X0 computers, EL 1000 high speed tape reader / RMSca Ls(510) Se(1956) Dlc
 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 / MSa Ms(130) Me(1950) DAic
 Electro-Mechanical Research, Inc., P. O. Box 4590, Sarasota, Fla. (company divisions include: Sarasota, Fla.; Advanced Scientific Instruments Div., Minneapolis, Minn.; Princeton Div., Princeton, N.J.; Soltatron Div., Anaheim, Calif. / 955-0153 / *C 64
 General purpose digital computers and accessories, telemetry data acquisition and processing equipment, shaft position digital encoders / RMSa Ls(1047) Me(1941) DICc
 Electro-Miniatures Corp., 690 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 / RMa Ms(175) Se(1955) Ic
 Electron Ohio, Inc., 1270 W. 9th St., Cleveland, Ohio 44113 / 621-5196 / *C 64
 Data delay systems, bar chart recorders / MSCa Ss(15) Se(1961) Ic
 Electronic Associates Inc., West Long Branch, N.J. / 201-222-1100 / *C 64
 Analog and hybrid computers, digital plotting equipment, computing services / RMSca Ls(2500) ?e Aic
 Electronic Counters, Inc., 155 Eileen Way, Syosset, L.I., N.Y. — out of business
 Electronic Data Service, Inc., 802 Philadelphia Pike, Wilmington, Del. / PO 2-2500 / Branch office, 4708 Kirkwood Hwy, Newark, Del. / WY 8-114 / *C 64
 80 column punched card tabulating service; 1401 IBM system and 7070 IBM. EDP system for lease; punched card and EDP educational program / CP(data center)a Ss(40) Se(1956) Ic
 Electronic Development Corp., 423 West Broadway, Boston, Mass. 02127 / 617-266-9696 / *C 64
 A/D converters, precision voltage reference sources, millivolts, programmable voltage measurement systems, shaft encoder translators / Ma Ss(20) Se(1958) Ic
 Electronic Engineering Co. of California, 1601 E. Chestnut Ave., Santa Ana, Calif. / 714-547-5501 / *C 64
 Computer format control buffers, analog multiplexers, analog to digital converters, punched tape reader for computers, automatic magnetic tape search and control systems / Ma ?s ?e ICc
 Electronic Memories, Inc., 9430 Bellanca Ave., Los Angeles 45, Calif. / Spring 6-1333 / *C 63
 Magnetic core memories, magnetics tester, memory cores, ferrite core arrays, planes, stacks and assemblies / RMa Ms(150) Se(1961) Ic

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 / RMSca Ms(70) Se(1961) Dlc

Electronic Transformer Corp., 29 Park Place, Passaic, N.J. 07056 / 201-472-6336 / *C 64
 Transformers, filters, chokes / Ma Ss(25) Se(1960) Ic
 Electronics Corp. of America, 1 Memorial Drive, Cambridge, Mass. 02142 / 617-UNIVERSITY 4-8000 / *C 64
 Controls, sorting and counting / MSa ?s ?e Cc
 Electropac, Inc., a subsidiary of Computer Control Company, Inc., Industrial Park, Peterborough, N.H. / 603-924-3821 / *C 63
 Contract manufacturer of electronic and electromechanical equipment (computer, aerospace, industrial, medical) / MPa Ms(120) Se(1960) Dlc
 Elgenco Inc., 1550 Euclid St., Santa Monica, Calif. 90404 / 213-451-1635 / *C 64
 Electronic noise generators, computer auxiliary equipment, statistical equipment / RMSa Ss(12) Se(1955) Ic
 Elliott Bros. (London) Ltd. (a member of the Elliott-Automation Group), Elstree Way, Borehamwood, Hertfordshire, England / Elstree 2040 / *C 63
 General purpose digital computers for scientific, research, industrial, and commercial applications; real-time data processing systems; airborne digital computers; mobile digital computers; analog and digital computing modules for automation systems; data loggers, data acquirers, alarm scanning systems; medium and high-speed tape readers, card readers, tape spoolers. Manufacturers of N.C.R. 315 Data Processing Systems in the United Kingdom. Divisions wholly concerned with computing: Elliott Computing Div., National Computing Div., Mobile Computing Div., Aircraft Direction Div., Process Computing Div., Airborne Computing Div., Computing Services Div., Computer Maintenance Div., Automation Accessories Div., Data Processing Research Laboratory / RMSc(comprehensive computing service facilities)a Ls(10,000) Le(1600) DIC
 Elliott Industries Inc., 143 Albany St., Cambridge, Mass. 02139 / Trobridge 6-2020 / *C 63

Addressing machines, data imprinting systems, address stencils / MSa Ms(500) Le(1900) Ic
 El-Rad Manufacturing Co., 4390 N. California Ave., Chicago 18, Ill. / Irving 8-7300 / *C 61
 Delay lines and pulse transformers for computer application / Ma Ms(300) Me(1941) Ic
 Elzee Metal Products Co., Inc., 775 39th St., Brooklyn 32, N.Y. / 212-435-5000 / *C 61
 Precision sheet metal parts / Ma Ms(75) Me(1945) Ic
 Embree Electronics Corp., 10 N. Main St., West Hartford, Conn. 06107 / 203-233-8508 / *C 64
 DC power supplies, analog operational amplifiers / Ma Ss(10) Se(1959) Ic
 Encoder Div., Litton Precision Products, Inc., Div. of Litton Industries, 7942 Woodley Ave., Van Nuys, Calif. 91406 / 701-2111 / *C 64
 Analog to digital converters / RMSa Ms(70) Se(1963) Ic
 Engineered Electronics Co., 1441 E. Chestnut Ave., Santa Ana, Calif. / 714-547-5551 / *C 64
 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 / Ma Ms(200) Se(1954) Ic
 Entelek Inc., 42 Pleasant St., Newburyport, Mass. 01950 / 617-465-3000 / *C 64
 Programmed self-instructional courses for computer-based management / RMScc Ss(12) Se(1961) Ic
 EpSCO, Inc., 411 Providence Hwy., Westwood, Mass. 02090 / 617-329-1400 / *C 64
 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 / RMSca Ms(500) Se(1954) DAic
 Equipto Electronics Corp., 435 Woodlawn Ave., Aurora, Ill. / 312-897-4691 / *C 64
 Racks, cabinets and consoles / Ma Ss(35) Se(1960) Ic
 ESC Electronics Corp., 534 Bergen Blvd., Palisades Park, N.J. / 201-947-0100 / *C 64
 Electromagnetic delay lines, pulse forming networks, filters / Ma Me(180) Se(1953) Ic
 ESS GEE, Inc., 1 Holland Ave., White Plains, N.Y. / WH 6-1200 / *C 64
 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 / RMa Ms(75) Se(1959) IMc
 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 / Sa Ss(22) Se(1957) Ic
 Evershed & Vignoles Ltd., Acton Lane Works, Chiswick, London W. 1, England / Chiswick 3670 / *C 64
 Special purpose analog computers, data loggers, industrial telemetry, process control, servo-system components / RMSa Ls(2000-) Le(1895) AISC
 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 / Ms Ss(27) Se(1957) Ic
 Executive, Inc., 47-37 Austell Place, Long Island City 1, N.Y. / EX 2-4800 / *C 64
 Electronic data gathering (centralized time-keeping) systems, communicating systems / MSa Ms(500) Me(1936) Ic
 E-Z Sort Systems, Ltd., 45 Second St., San Francisco, Calif. / Garfield 1-8005 / *C 64
 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 / RMSa Ms(225) Me(1935) Ic

F

Fabri-Tek Inc., Box 645, Amery, Wisc. / 268-7155 / *C 64
 Core memory planes, stacks and systems, thin film system / RMSa Ls(600) Se(1957) Ic
 Fairchild Controls, Div. of Fairchild Camera and Instrument Corp., 225 Park Ave., Hicksville, L.I., N.Y. / 516-NE 8-5600 / *C 64
 Especially for computing and data processing industries — a complete new line of single turn, multi-turn potentiometers and trimmers (FAIRCON) / Ma Ms(500) Me(1945) Ic
 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 / RMSa Ls(4000) Se(1947) Ic
 Fairchild Space and Defense Systems, Div. of Fairchild Camera and Instrument Corp., 390 Robbins Lane, Syosset, L.I., N.Y. / 516-WE 1-4500 / *C 61
 Reconnaissance, mapping and ground data handling systems; special purpose computers; digital controls and electronics; A-D and D-A converters; encoders and decoders; data block readers; data annotation; special fixed memory devices; fre-

quency control and time-base generators / RMSc(Lab Services)a Ls(1100) Le(1920) Dlc
 Farmer Electric Products Co., Inc., Tech Circle, Natick, Mass. / 617-653-0850 / *C 61
 Photoelectric components — miniature light sources and photocells / MSa Ss(35) Me(1950) Ic
 Farrington Electronics, Inc., Shirley Industrial Park, Springfield, Va. / 703-351-5000 / *C 61
 Optical character recognition equipment, series '9SP; 1D' IP; SD and source data recorders / RMSa Ms(300) Se(1953) Ic
 Fedder Electronics Corp., 307 S. Sharp St., Baltimore 1, Md. / 301-MU 5-6773 / *C 61
 IBM 1401 Computer, optical scanning, hi-speed addressing; specializing in applied programs in banking, retailing and publishing. Systems and programming staff available for consultation / C(computer services)a Ms(110) Le(1929) Ic
 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 / MC(custom designed controls)a Ss(20) Se(1953) Ic
 Feedback Controls, Inc., 8 Erie Dr., Natick, Mass. / OL 3-3441 / *C 64
 Magnetic amplifiers, quadrature rejectors, data repeaters, servo multipliers, servomotor gearheads, computer test equipment, special purpose analog computers / RMSa Ms(70) Se(1954) Aic
 Fenwal, Inc., 400 Main St., Ashland, Mass. / 875-6111 / *C 64
 Temperature controls, fire detection systems, monitoring systems / Ma Ls(700) Me(1935) Cc
 Ferranti Electric, Inc., Plainville, L.I., N.Y. / 516-NE 8-7500 / Mfg. plant at Plainville. Agent for Ferranti Ltd., Holliswood, Eng. / *C 64
 Magnetostriction delay lines, fixed memory systems, high resolution CRT display tubes, viscometers, moire fringe systems, machine tool control systems, traffic control systems / Ma Ls(16,000) Le(1896) DICc
 Ferranti Electronics, Div. of Ferranti-Packard Electric Ltd., Industry St., Toronto 15, Ont., Canada / 416-762-3561 / *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 / RMSca Ms(450) Le(1912) DICc
 Ferroxcube Corp. of America, Kings Highway, Saugerties, N.Y. / 914-246-2811 / *C 61
 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 / RMSa Ls(700) Me(1949) Ic
 Filtron Co., Inc., 131-15 Fowler Ave., Flushing 55, N.Y. / HI 5-7030 / *C 64
 RF shielded enclosures, RF shielding consulting services and testing, RFI/EMC filters, RF suppression feed-thru capacitors for security applications / MC(RFI Testing & Certification)a Ms(400) Me(1948) Ic
 Fischbach, McCoach & Associates, Inc., 30 East 42nd St., New York 17, N.Y. / 212-MJ 2-5696 / *C 64
 Management consultants specializing in application of scientific techniques to business-type problems. Complete service in appraisals and installation of electronic data processing and control systems / RCA Ss(8) Se(1959) DAISC
 Fischer & Porter Co., County Line Rd., Warminster, Pa. / OSborne 5-6000 / *C 64
 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 / RMSa Ls(15,000) Me(1937) DICc
 Florida State University, Computing Center, Tallahassee, Fla. / - / *C 64
 IBM 709 — 32K — 9 tapes and IBM 1401 — GK — 4 tapes / R(educational use)a Ss(25) Se(1950) Dc
 FMA, Inc., 142 Nevada St., El Segundo, Calif. / 213-EA 2-0072 / *C 64
 Information storage and retrieval systems / RMa Ms(250) Se(1959) Ic
 Forbes and Wagner Inc., Silver Creek, N.Y. / - / *C 64
 Delay lines / ?a ?s ?e Ic
 The Foxboro Co., 39 Neponset Ave., Foxboro, Mass. 02035 / 617-543-8759 / *C 64
 Process computer systems, data logging and alarming computers, alarm scanners, computer set point stations / RMSa Ls(3000) Le(1903) DICc
 Franklin Electronics Inc., E. 4th St., Bridgeport, Pa. / BR 2-4800 / *C 64
 High speed digital printers / Ma Ms(55) Me(1951) Ic
 Franklin Ribbon & Carbon Co., Inc., 172-178 Nassau St., Brooklyn 1, N.Y. / 212-TR 5-4700 / *C 64
 Inked ribbons for use on all data processing machines / RMSa Ss(30) Le(1928) Ic
 Friden, Inc., a Subsidiary of the Singer Co., 2350 Washington Ave., San Leandro, Calif. / 357-6800 / *C 64
 Data processing and data collecting systems, including: Flexowriter, automatic writing machine with tape or card input/output; Collectedata 30 System with punched card transmitters, badge transmitters, time recorders, and tape receivers for data collection and attendance

Roster of Organizations

recording; 6010 Electronic Computer, small scale solid state computer for business applications such as billing, payroll, statistical quality control, etc.; CTP Computer, automatic writing-computing machine with tape or card input-output and interchangeable program panels; Teledata, automatic tape transmitter-receiver which uses existing communications lines; Selectadata, automatic tape reader and data selector used with Flexwriters and Computers; Code Converter, for tape-to-tape conversion; Add-Punch, punched tape adding machine; remotely-controlled input-output devices and printers; special Flexwriters for pre-encoding checks with MICR symbols, preparing tapes for numerical control of machine tools, and for off-line use with electronic computers. 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 / RMSa Ls(10,250) Me(1934) DISC

Friden, Inc., (Service Bureau Div.) a subsidiary of The Singer Mfg. Co., 390 Fifth Ave., New York 10, N.Y. / OX 5-6075 / *C 64

Data processing systems — sales and service; SEMA and SEMAC Systems: digital electronic memory systems for punched card, paper tape and direct input/output; high speed punched paper tape reader; auxiliary plugboard wiring devices / RMSc(service bureau) Ls(900) Me(1947) DIC

G

Gamma Scientific, 1170 Broadway, New York 1, N.Y. / - / *C 63

Readers / Ma ?s ?e Ic

Gannett Fleming Corddry and Carpenter, Inc., 600 N. Second St., Harrisburg, Pa. / 717-238-0451 / *C 64

Consulting engineering firm with a 1620 IBM Computer and other EDP equipment, doing work for own organization plus operating a service bureau / Ca Ms(500) Le(1915, Computer Section in 1955) Ic

GAP Instrument Corp., 17 Brooklyn Ave., Westbury, L.I., N.Y. / 516-ED 3-8020 / *C 63

Electromechanical servo systems, analog to digital and digital to analog converters, stepping motors, plotting boards / Ma Ss(40) Se(1956) ISc

G. C. Electronics, Div. of Textron Electronics, 400 S. Wyman St., Rockford, Ill. / 815-968-9661 / *C 64

Accessories, electronic tools, chemicals, hardware and connectors / Ma Ms(400) Le(1930) Ic

H. S. Gellman & Co. Ltd. — merged with DCF Systems Ltd., which see

General Atronics Corp., 1209 E. Mermaid Lane, Philadelphia 10, Pa. / Chestnut Hill 7-6800 / *C 63

Automatic sorting, routing and control systems and devices / RMSc(engineering) Ms(200) Se(1955) ICc

General Computers, Inc., 5990 W. Pico Blvd., Los Angeles, Calif. 90035 / 939-7687 / *C 64

Analog computers, card programmed function generators, amplifiers, DC operational amplifiers, chopper amplifiers, self powered operational amplifiers / Ma Ss(25) Se(1957) AIC

General Controls Co., 801 Allen Ave., Glendale 1, Calif. / Victoria 9-2181 / *C 63

Automatic controls for product or process. Counters and counting devices, actuators, magnetic valves, Hydromotor® electrohydraulic valves and actuators, industrial controls and instruments, mercury switches, Klixswitch® snap-acting switches, time switches (sequence), transformer-relays, contactors, limit controls (temperature) precision potentiometers, turns counters / Ma Ls(3000) Me(1936) ICc

General Devices, Inc., P. O. Box 253, Princeton, N.J. / 609-WA 4-2500 / *C 64

Electromechanical and solid state commutators for computers; multiplexers / RMS(engineering) Ss(45) Se(1953) Ic

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 / RMSca Ls(4000) Le(1894) DAIC

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 CHARACTERON® shaped beam tube), facsimile systems / RMa Ls(1200) Se(1955) DIC

G-E Communication Products Dept., Lynchburg, Va. / VI 6-7311 / *C 63

TDS-91 Data Communications / RMS(systems engineering) Ls Le Ic

General Electric Co., Capacitor Dept., John St., Hudson Falls, N.Y. / 518-747-3341 / *C 64

Capacitors for computer circuitry and power supplies / Ma Ls(1100) Le(1878) Ic

General Electric Co., Computer Dept., 13430 N. Black Canyon Highway, Phoenix, Ariz. / 941-2900 / *C 63

GE-210, GE-215, GE-225, GE-235. Complete data-processing systems, including full line of peripherals. Computer services offered non-computer customers through 6 Information Processing Centers in major metropolitan areas / RMSc(computer services) Ls(3500) Se(1956) DAICc

General Electric Co., Electronic Speciality Capacitor Product Section, P. O. Box 159, Irmo, S.C. / Alpine 2-6332 / *C 63

Capacitors for computers / RMSa Ls(750) Le(before 1900) Ic

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 / RMSa Ls Le(1892) DAIC

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. / RMSa Ls Le(1892) DASCC

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 / RMa Ls Se(1963) DIC

General Electric Co., Receiving Tube Dept., 316 E. Ninth St., P. O. Box 1009, Owensboro, Ky. / 502-WU 3-2401 / *C 64

Glass and metal octal receiving tubes; miniature and sub-miniature glass receiving tubes; industrial receiving tubes; planar type metal-ceramic, miniature and micro-miniature ceramic receiving tubes for severe environments; Compactron multifunction receiving tubes; photoconductive cells and arrays; reed relay switches / RMSa Ls(7000) Le(1878) Ic

General Electric Co., Specialty Devices Operation, 1811 Lemoine Ave., Syracuse, N.Y. / 456-5496 / *C 63

Custom design, develop, and manufacture integrated electronic devices and systems for military and commercial computers and data processing systems. Majority encapsulated to withstand vibration, shock, extreme temperatures / RMSa Ms(250) Se(1955) Ic

The General Fireproofing Co., E. Dennick Ave., Youngstown, Ohio 44501 / 216-746-7271 / *C 64

Data processing accessory equipment / Ma Ls(2371) Le(1902) Ic

General Instrument of Canada Ltd., 151 Weber St. So., Waterloo, Ont., Canada / SH 4-8101 / *C 64

TV tuner, FM transistorized tuners, IF transformers, coils, horizontal output transformers, flybacks, hi fi stereophonic chassis, radio-sondes for Dept. of Transport, semiconductor, rectifiers, diodes, etc. / Ma Ms(400) Me(1937) Ic

General Instrument Corp., 600 W. Johns St., Hicksville, L.I., N.Y. / 516-0V 1-8090 / *C 64

Semiconductors / RMSa Ls(1375) Se(1954) Ic

General Instrument Corp., Capacitor Div., 65 Gouverneur St., Newark, N.J. / 201-405-2100 / *C 64

Fixed capacitors for computer applications / Ma Ls(1000) Le(1925) Ic

General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div., Andrews Rd., Hicksville, N.Y. 11802 / 516-0V 1-4300 / *C 64

Development of digital data processors / RMa Ls(9000) Le(1922) Ic

General Instrument Corp., Systematics & Magne-Head Div., 3216 West El Segundo Blvd., Hawthorne, Calif. / OS 9-3377 or SF 2-2351 / *C 64

Magnetic tape and drum heads, magnetic drums, and perforated tape and card peripheral devices / Ma Ms(225) Le(1923) Ic

General Intellitronics Inc., 900 Nepperhan Ave., Yonkers, N.Y. / YO 9-2522 / *C 63

Low cost, solid state, general purpose digital computer / RMa Ss(6) Se(1962) Dc

General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / 703-671-4500 / *C 63

Services in: digital computer programming; programming research; computer test equipment. Programming services for all general purpose computers. Recommendation, design, and construction of automatic-programming-automatic-checking systems to fit specific needs. Mathematical studies; numerical analysis; data-reduction information retrieval; magnetic tape testers; magnetic tape ultrasonic cleaners; acceptance test equipment; problem solving / RMSPCA Ss Se(1954) DICMc

General Radio Co., 22 Baker Ave., W. Concord, Mass. 01701 / EM 9-4400 / *C 64

Electronic measuring and test instruments, including frequency counters, digital-to-analog converters, and printers / MSa Ls(1000) Le(1915) Ic

Genisco Systems, a div. of Genisco Inc., 18435 Susana Rd., Compton, Calif. / 774-1850 / *C 63

Data acquisition systems, digital voltmeters, analog to digital converters, automatic programmed test equipment / RMa Ms(175) Me(1947) Ic

Geo Space Corp., 5803 Glenmont Dr., Houston, Tex. 77036 / 713-MO 6-1611 / *C 64

Data processing computers / RMSca Ms(450) Se(1957) Dc

The Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex. / BR 8-8102 / *C 64

Analog data transmission equipment for radio or telephone circuits, data processing systems, automatic-processing film recorders, motorized film viewers. Geophysical and seismological

instruments. Low-noise, low-frequency capability / RMSc(field programs) Ls(650) Me(1936) DAICc

Gerber Scientific Instrument Co., P. O. Box 305, Hartford, Conn. / 203-209-2731 / *C 64

Digital plotting systems, automatic drafting machines, machines tool tape verifiers / RMa Ms(100) Me(1948) Ic

Giannini Controls Corp., 1600 S. Mountain Ave., Duarte, Calif. 91010 / 213-681-2311 / *C 64

Data acquisition devices, encoders, numerical controls; measurement and control devices; instruments; timing devices; ultrasonic devices; nucleonic devices / RMa Ls(2000) Me(1945) ICc

Giannini Scientific Corp., 185 Dixon Ave., Amityville, N.Y. / 516-LI 1-3600 / *C 64

Flight research Multidate® instrumentation recording cameras; analog to digital converter; transistorized tone signaling equipment / RMSca Ls(648) Se(1959) Ic

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 / RMa Ss(800) Se(1953) DICc

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 / Ma Ss(25) Me(1950) Ic

Gordon and Breach, Science Publishers, Inc., 150 Fifth Ave., New York 11, N.Y. / 212-YU 9-1120 / *C 64

Professional books and journals on computer science and technology. Current books include "Symbolic Languages in Data Processing", "Analog Computation Applied to the Study of Chemical Processes", "Programming for Digital Computers", others. Journals include "International Bibliography of Automatic Control" (quarterly), "International Journal of Computer Mathematics" (quarterly), "Proceedings of the International Association for Analog Computation" (quarterly) / (publishing) Ss(12) Se(1961) Ic

GPL Div., General Precision, Inc., 63 Bedford Rd., Pleasantville, N.Y. / 914-RO 9-5000 / *C 64

Data retrieval closed circuit television / RMSca Ls(1200) Me(1945) Ic

GPS Instrument Co., Inc., 188 Needham St., Newton, Mass. / 617-DE 2-8110 / *C 64

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. / RMSca Ss(38) Se(1955) AIC

Grico, Inc., 234 Portage Trail, Cuyahoga Falls, Ohio / 929-1556 / *C 63

Rotary diazo printer satellite and super satellite, satellite booster developer / RMSa Ss(3) Se(1957) Ic

Guardian Electric Mfg. Co., 1550 W. Carroll Ave., Chicago 7, Ill. / 312-CH 3-1100 / *C 64

Relays; switches, solenoids, steppers / Ma ?s Le(1931) Ic

The Gudeman Co., Inc., 340 W. Huron St., Chicago 10, Ill. 7473 Ave. 304, Visalia, Calif. / Chicago: Delaware 7-7400; Visalia: Redwood 2-4811 / *C 63

Capacitors, pulse transformers, delay lines / Ma ?s ?e Ic

Guidance Controls Corp., a subsidiary of Warner Electric Brake & Clutch Co., Commercial St., Engineers Hill, Plainville, L.I., N.Y. / WELLS 8-9500 / *C 63

Precision control devices for aerospace, instrumentation and industrial applications; electric clutches and brakes, potentiometers, servo motor gearhead and speed reducers, encoders / Ma Ms(50) Se(1950) Ic

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 / RMSca Ls(1850) Me(1945) DAISc

G-V Controls Inc., 101 Okner Parkway, Livingston, N.J. 07039 / 201-992-6200 / *C 64

Thermal time delay relays, electronic time delay relays, thermostats, voltage and current sensors / MSa Ms(205) Me(1949) Ic

The GYREX Corp., 3003 Pennsylvania Ave., Santa Monica, Calif. / 213-EXbrook 3-0462 / *C 64

Computer input systems (high speed data processors); time and frequency standards and control systems; pulse generators and time markers / RMSa Ss(15-25) Se(1956) DIC

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Hagan Controls Corp., a subsidiary of Westinghouse, 250 Mt. Lebanon Blvd., Box 11606, Pittsburgh, Pa. 15228 / 412-563-6120 / *C 64

Digital computers and data processors, analog computers, servo mechanisms, automatic control machinery / Ma Ms(413) Le(1918) DASCC

Halbrecht Associates, Inc., 4641 Montgomery Ave., Bethesda, Md. 20014; 332 S. Michigan Ave., Chicago 4, Ill.; 11691 National Blvd., Los Angeles 64, Calif. / Bethesda: 656-9170; Chicago: Harrison 7-2876; Los Angeles: 478-0657 / *C 64

Management consultants, personnel and executive recruitment specialists in the fields of elec-

Roster of Organizations

- tronic data processing, operations research, mathematical sciences, and scientific management / Ca Ss(9) Se(1957) Dlc
- 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. MF, HF, VHF and UHF radio transmission equipment. Coaxial cable data transmission system components / Ma Ls(525) Le(1910) Dalc
- Hammer Business Service, Inc., 99 Hanover St., Manchester, N.H. / 669-1730 / *C 63
- Consulting, IBM punched card tabulating (IBM-604-407), Royal McBee-LGP-30 computer / C(data processing) a Ss(8) Se(1961) Ic
- Hammond Manufacturing Co., Ltd., Edinburgh Rd. & Speedvale Ave., Guelph, Ontario, Canada / 519-TA 2-2960 / *C 64
- Transformers, chokes, reactors, and other iron core components, metal panels, racks and cabinetry / Ma Ms(275) Le(1927) Ic
- Hampshire Engineering Co., Inc., 2300 Washington St., Newton Lower Falls, Mass. 02162 / 617-BT 4-5937 / *C 63
- Special purpose digital computers, data processing systems / Rma Ss(10) Se(1954) Dc
- Harman Kardon, Inc., Data Systems Div., 55 Ames Ct., Plainview, N.Y. / 516-OV 1-4000 / *C 64
- Digital volt ohm meters, A/D converters, multiplexers, digital logic, data processors / MSa Ls(over 500) Me(1949) Dlc
- Harvey-Wells Electronics, Inc., 14 Huron Drive, Natick, Mass. / 617-OL 5-1120 / *C 63
- Digital computers, digital systems, instruments, components / RMSCPa Ss(30) Se(1960) Dlc
- Hathaway Instruments Inc., 5800 E. Jewell Ave., Denver, Colo. 80222 / SKline 6-8301 / *C 64
- Commutators, rotary stepping switches, audio response plotter, diode switches, diode relays / RMSa Ms(400) Me(1940) Ic
- The A. W. Haydon Company, 232 N. Elm St., Waterbury, 20, Conn. / 203-756-4481 / *C 64
- Binary encoders, encoder system, stepping devices and systems, time delay relays, repeat cycle timers, AC, DC and stepper motors (miniature and microminiature), servo head motors / RMSa Ms(460) Me(1946) Isc
- Heath Co., a subsidiary of Daystrom Inc., Hilltop Rd., Benton Harbor, Mich. / 616-WU 3-3961 / *C 64
- Analog computers and components in easy to build kit form / MSa Ls(575) Me(1946) Alc
- Hewlett-Packard Co., 1501 Page Mill Rd., Palo Alto, Calif. / 415-326-7000 / *C 64
- 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 milliameters, oscillators, audio signal generators, microwave sweep oscillators and signal generators, microwave power and SWR meters, wave guide and coaxial equipment / MSa Ls(4000) Me(1939) Ic
- The Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland 8, Ohio / 216-541-8060 / *C 64
- Card programmed multiple contact switches (Cardmatic) / RMSa Ms(450) Le(1910) Ic
- Hillburn Electronic Corp. — name changed to Hillburn Relay Corp., which see
- Hillburn Relay Corp., 55 Millbar Blvd., Farmingdale, L.I., N.Y. / CHapel 9-2020 / *C 64
- Relays and stepping switches / Ma Ss(40) Me(1945) Ic
- S. Himmelstein & Co., 6015 North Ridge Ave., Chicago 26, Ill. / 312-465-6022 / *C 63
- Consulting and design engineering services. Magnetic recording systems and computer peripheral equipment development / RCA Ss(10) Se(1960) Dlc
- Hoffman Electronics Corp., Semiconductor Div., Hoffman Electronic Park, El Monte, Calif. 91734 / 686-0123 / *C 64
- Photoelectric tape and card readers; semiconductor devices including diodes, regulators, temperature compensated reference devices / RMSa Ms(429) Me(1941) Ic
- Hogan Faximile Corp., 635 Greenwich St., New York 14, N.Y. / 212-CH 2-7855 / *C 64
- High speed printer-plotters and event recorders / RMSa Ms(65) Le(1929) Ic
- Hollander Associates, P.O. Box 2276, Fullerton, Calif. / 714-LA 5-8777 / *C 64
- Design and consulting in general and special purpose computers and their application to business, control, communications switching, and defense; including technical liaison overseas / RCA Ss(9) Se(1961) DASC
- Allen Hollander Co., Inc., 305 Gerard Ave., Bronx, N.Y. 10451 / 914-MO 5-1818 / *C 64
- Pinned labels for computer applications / MSa ?s ?e Ic
- Holley Computer Products Co., 11955 E. Nine Mile Rd., Warren, Mich. / 313-JE 6-1900 / *C 64
- Line printers / Ma Ms(800) Se(1962) Ic
- Honeywell, Denver Div., 4000 E. Dry Creek Rd., Denver, Colo. 80217 / 303-794-4311 / *C 64
- Incremental digital magnetic tape recorders / MSa ?s Le(1886) Ic
- Honeywell Electronic Data Processing Div., 60 Walnut St., Wellesley Hills, Mass. 02101 / 617-CE 5-7450 / *C 64
- Business and scientific data processing systems and related peripheral devices / RMS(rental) a Ls(3000) Se(1955) Dlc
- Honeywell Regulator Co., Aeronautical Div., Florida Facility, 13350 U.S. Highway 19, St. Petersburg, Fla. 33733 / 525-1121 / *C 64
- Airborne digital general purpose and digital differential analyzer high speed computers, memory drums, buffer memory systems, digital encoders, pulse generators, SCR switches / RMSa Ls(4000) Le(1875) Dlc
- Honeywell, Special Systems Div., Queen & So, Bailey Sts., Pottstown, Pa. / 215-323-4000 / *C 64
- General purpose digital computers for on-line real time applications, special purpose analog computer systems, MGF, programming, and maintenance of these systems / MSCa Ms(350) Se(1960) Dalc
- The Hoover Co., Electronics Div., P. O. Box 878, 500 N. Andrews Ave., Ext., Pompano Beach, Fla. / 942-5200 / *C 63
- 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 / RMA Ms(60) Se(1955) Ic
- Houston Fearless Corp., 11801 W. Olympic Blvd., Los Angeles 64, Calif. / 213-272-4331 / *C 64
- Data monitoring devices, magnetic memory drums, information storage/retrieval systems, microfilm processors / RMA Ls(930) Me(1943) Ic
- Houston Instrument Corp., 4950 Terminal Ave., Bellaire 101, Tex. / 713-MO 7-7403 / *C 64
- Recorders, voltmeters, converters, DVM / Ma Ms(85) Se(1959) Ic
- HRB Singer, Inc., a subsidiary of The Singer Mfg. Co. — name changed to Friden, Inc. (Service Bureau Div.), a subsidiary of The Singer Mfg. Co., which see
- HRB Singer, Inc., Science Park, Box 60, State College, Pa. 16801 / 814-237-7611 / *C 64
- Methods and equipment which comprise information services / RCPda Ls(1000) Me(1946) Dlc
- 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 / RMS(systems analysis, integration and management) a Ls(7000) Se(1956) Dlc
- Hughes Aircraft Co., Semiconductor Div., 500 Superior Ave., Newport Beach, Calif. / 714-LI 8-0671 or 714-MA 9-3271 / *C 64
- Silicon and germanium diodes, microminiature diodes and transistors, silicon transistors, silicon power rectifiers, packaged assemblies, micro weld modules, voltage regulator diodes / Ma Ls(1500) Me(1951) Ic
- Hughes Aircraft Co., Vacuum Tube Products Div., 2020 Oceanside Blvd., Oceanside, Calif. / 722-2101 / *C 64
- Direct view storage tubes / RMSa Ms(400) ?e Ic
- 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 / RMCA Ms(100) Se(1962) Dlc
- Hurler Control Products Div., 920 Manchester Rd., Wheaton, Ill. / 312-668-2330 / *C 63
- Components — relays and sensing devices / RMSa Ms(237) Me(1946) Ic
- Hydro Molding Company, Inc., 100 Sharron Ave., Plattsburgh, N.Y. / 518-JO 1-5320 / *C 64
- Precision molded plastic components / Ma Ms(125) Se(1950) Ic
- Hydropoise Inc. — name changed to Brooks Instrument Co., which see
- Hyperion Industries, Inc., 127 Coolidge Hill Rd., Watertown, Mass. / WA 6-0140 / *C 63
- Magnetic tape search units, digital language translators, computer power supplies / Ma Ms(152) ?e Ic

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- IDC, Ingenieria de Computadoras, Esmeralda 356, Buenos Aires, Argentina / 46-4548 / *C 64
- Computer consultant firm / RCA Ss(6) Se(1963) Ic
- The I.D.R. Co. (Industrial Data Reduction), 4740 Spruce St., Philadelphia 39, Pa. / Granite 2-5023 / *C 64
- Full line data processing with specialty of publishing industry services / SCP(data processing services) a Ss(30) Se(1961) Dlc
- Image Instruments, Inc., 2300 Washington St., Newton Lower Falls, Mass. 02162 / 617-969-8440 / *C 64
- Recording storage tube systems, scan converters, computer data display storage / RMA Ss(30) Se(1959) Ic
- IMC Magnetics Corp., Western Div., 6058 Walker Ave., Maywood, Calif. / LUDlow 3-4785 / *C 64
- Linear and rotary solenoids, step-servo motors, synchros, resolvers, digital to shaft angle converters / Ma Ms(150) Me(1946) Ic
- 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 / Ma Ms(600+) Le(1908) Ic
- Indiana General Corp., Magnet Div., 405 Elm St., Valparaiso, Ind. / Hlward 2-3131 / *C 64
- Permanent magnets / RMSCa Ls(750) Le(1900) Ic
- Inductor Engineering, Inc., 117 Schley Ave., Newark, Del. 19958 / 302-645-6251 / *C 64
- Magnetic amplifiers, transformers, toroids, electronic filters, pulse transformers / Ma Ss(25) Se(1956) Ic
- Industrial Control Co., Central Ave., at Pinelawn, E. Farmingdale, L.I., N.Y. 11735 / 516-MY 4-3000 / *C 64
- Servo multipliers, function generators, servo digitizers / Ma Ss(25) Me(1949) Sc
- Industrial Electronic Engineers, Inc., 5528 Vine-land Ave., North Hollywood, Calif. / 213-877-1144 / *C 64
- Rear-projection readout devices for data display; front plug-in readouts; Bina-View; binary input, self-decoding readouts; cue-switch readouts; status indicators; 6 lamp illuminated push-button switches / RMSa Ms(200) Me(1945) Ic
- Industrial Nucleonics Corp., 650 Ackerman Rd., Columbus 2, Ohio / 614-AM 7-6351 / *C 64
- AccuRay industrial process measurement and automatic control systems, data reduction and readout systems for paper, plastics, metal and other industries / Ma Ms(550) Se(1950) Clc
- 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 / RMSa Ss(40) Se(1955) Ic
- Information International, Inc., 200 Sixth St., Cambridge, Mass. / 617-860-9810 / *C 64
- Research and consulting in the computer sciences. Computer reading of scientific data recorded on film. Display techniques for analysis of scientific data / RMCA Ss(15) Se(1961) Ic
- Information Processing Systems, Inc., 200 W. 57 St., New York, N.Y. 10019 / 212-CI 6-2267 / *C 64
- Broker of used computer equipment; data processing consultant / SCA ?s Se(1963) Ic
- Information Products Corp., a 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 / MSa ?s ?e Ic
- 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 / SCA Ss(20) Se(1961) Ic
- Institute for Scientific Information, Inc., 325 Chestnut St., Philadelphia, Pa. 19106 / 215-932-3300 / *C 64
- Consulting research, publications, facsimile hardware, information engineering, publishers of Current Contents of Space, Electronic and Physical Sciences and Science Citation Index / RCPublishing) a Ms(75) Se(1955) Ic
- The Institute of Management Sciences, P. O. Box 273, Pleasantville, N.Y. / — / *C 64
- Non-profit scientific society, publishers of quarterly journal "Management Science" / ?s Se(1954) Ic
- Instrument Development Labs., Div. of Kollmorgen Corp., 67 Mechanic St., Attleboro, Mass. 02703 / 617-222-3680 / *C 64
- Encoders / Ma Ms(60) Me(1947) Ic
- Instrument Society of America, 530 Wm. Penn Place, Pittsburgh, Pa. 15219 / 412-281-3171 / *C 64
- Professional technical society serving the fields of instrumentation, measurement, data handling, and automatic control systems; publishes ISA Journal, ISA Transactions, Russian translations, and instrumentation standards / PCA Ss(38) Me(1946) Ic
- 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 / MSa Ms(350) Se(1960) Isc
- Intectron, Inc., 2300 Washington St., Newton Lower Falls, Mass. 02162 / 617-969-9311 / *C 64
- Microphotometric instruments, granularity computer, analog multiplier, optical correlation analyzer, optical Fourier transformer / RMCA Ss(10-20) Se(1960) Ic
- Interchemical Corp., 417 E. 7th St., Cincinnati, Ohio 45201 / 513-421-5200 / *C 64
- Ribbons and reaming service / MSa Ls Le Ic
- 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 / Ma Ss(18) Se(1962) Ic
- Interelectronics Corp., U.S. Route 303, Congers, N.Y. 10920 / 914-Lmwood 8-8000 / *C 64
- MIL environmental test facilities, fully-automated print-out test equipment, automated magnetic core component treatment processing / MGPa ?s ?e Ic
- 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, 7030, 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; 1202 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;

Roster of Organizations

- 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 / RMSa Ls(116,000) Le(1911) DICe
- International Business Machines Corp., Federal Systems Div., 326 E. Montgomery Ave., Rockville, Md. / 301-GA 4-6700; 301-IA 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 / RMSGC(systems)a Ls Se(1955) CMC
- International Computers and Tabulators Ltd., 17 Old Park Lane, London W. 1, England / Hyde Park 8000 / *C 64
- 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 / RMSCa Ls(18,000) Le(1907) DISc
- International Diode Corp., 90 Forrest St., Jersey City 4, N.J. / 201-432-7151 / *C 64
- Germanium crystal computer diodes with high switching speeds / RMSa Ss(16) Se(1959) Ic
- International Electric Corp., Route 17 and Garden State Parkway, Paramus, N.J. / Colfax 2-6000 / *C 63
- Electronic systems management / (systems management)a Ls(1300) Se(1958) Ic
- International Electro-Magnetics, Inc., Eric Drive & Cornell Ave., Palatine, Ill. 60067 / 358-4622 / *C 64
- Magnetic record, playback and erase heads for computers, telemetering, data recording, video and audio equipment / RMSCa Ss(15) Se(1959) Ic
- International Electronic Research Corp., Elin Div., 135 W. Magnolia Blvd., Burbank, Calif. / Victoria 9-2481 / *C 64
- Design application engineering; function generators and transformers / MSdesign application engineering)a Ms(450) Me(1951) Ic
- International Rectifier Corp., 233 Kansas St., El Segundo, Calif. / 213-OR 8-6281 / *C 64
- Complete line of general purpose silicon diodes, zener voltage regulator diodes, silicon controlled rectifiers, silicon readout photocells / RMSa Ls(1050) Me(1947) Ic
- International Resistance Co., 401 N. Broad St., Philadelphia 8, Pa. / 215-WA 2-8900 / *C 64
- Resistors (composition, film, power and precision wire wound and special application); potentiometers, flexible etched circuits; displacement transducers; low pressure cell; rectifiers; pressure transducers, diodes, frequency and time standards / RMSa Ls(2500) Le(1927) Ic
- 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 / Ra Ms Le DICe
- Itek Corporation, 10 Maquire Rd., Lexington 73, Mass. / 617-862-6200 / *C 64
- 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 / RMSCa Ls(2100) Se(1957) Dc
- 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 / RMSCa Ls(1600) Se(1958) Ic
- 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 / (service)a Ms Se(1961) Ic
- ITT Federal Laboratories, a div. of International Telephone and Telegraph Corp., 500 Washington Ave., Nutley 10, N.J. / North 1-1100 / *C 63
- Medium and large scale real time data processors for on-line applications; ITT 025 data processor, ITT 525 Versatile Automatic Data Exchange / RMSa Ls(7000) Le(1920) Dc
- ITT General Controls Inc., 801 Allen Ave., Glendale, Calif. 91201 / 213-042-6131 / *C 64
- 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), trans-
- former-relays, contactors, limit controls (temperature) / Ma Ls(3000) Le(1930) C1c
- J
- Jay-El Products, Inc., 1859 W. 169th St., Gardena, Calif. / Faculty 1-3260 / *C 63
- Illuminated switches, indicators, readout devices / RMSa Ss(25) Se(1956) Ic
- JB Electronic Transformers Inc., 2310 W. Armitage Ave., Chicago 47, Ill. / 312-276-0414 / *C 64
- Computer components / Ma Ms(100) Se(1959) Ic
- Jonker Business Machines, Inc., 26 N. Summit Ave., Gaithersburg, Md. / 948-9440 / *C 63
- Terminet and Minimatex information and data retrieval equipment and information services, including consulting, indexing and abstracting / RMSCa Ss(42) Se(1958) Ic
- Jordan Electronics, a div. of The Victoreen Instrument Co., 121 So. Palm Ave., Alhambra, Calif. / CU 3-6425 / *C 63
- Timing devices, power supplies, sensors, voltage comparators, keyers, flashers, audible warning, intervalometers, servo amplifiers, static switches, programmers, and systems / Ma Ms(194) Se(1952) Ic
- Clark H. Joy Co., 27005 Knickerbocker Rd., P. O. Box 9695, Bay Village 40, Ohio / - / *C 63
- Design, engineering and fabrication of control systems or process systems / Ma ?s ?e Ic
- Julie Research Laboratories, Inc., 211 W. 61st St., New York, N.Y. 10023 / - / *C 64
- Precision wirewound resistors and networks / Ma ?s ?e Ic
- K
- Kay Electric Co., Maple Ave., Pine Brook, N.J. / Capital 6-4000 / *C 64
- Electronic test instruments / Ma Ms(130) Me(1947) Ic
- KCS Ltd. — see Computing Services Co., A Div. of KCS Ltd.
- Kearfott Div., General Precision, Inc., Aerospace Group, 1150 McBride Ave., Little Falls, N.J. / CL 6-4000 / *C 63
- Analogue and hybrid airborne navigation computers / Ma Ls(7700) Le(1917) DAc
- 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 / Ma ?s ?e Ic
- Kelvin Sales Co., 5919 Noble Ave., Van Nuys, Calif. 91409 / 213-782-6662 / *C 64
- Precision wirewound resistors and resistor networks / MSa Ms(170) Se(1955) Ic
- Keeco, Inc., 131-38 Sanford Ave., Flushing, N.Y. 11352 / 212-IN 1-7000 / *C 64
- A complete line of standard voltage/current DC regulated power supplies / MSa Ms Me(1946) Ic
- Keystone Electronics Corp., 49 Bleeker St., New York, N.Y. 10012 / 212-GR 5-4600 / *C 64
- Manufacturers of electronic components / Ma Ss(35) Me(1944) Ic
- Walter Kidde & Co., Inc., Aerospace Div., 441 Main St., Belleville 9, N.J. / 201-PLYmouth 9-5000 / *C 63
- Solid state power supplies, static converters and static inverters / RMSCa Ls(1614) Le(1917) ICc
- Walter Kidde & Co., Inc., Alarms Div., 441 Brighton Rd., Clifton, N.J. / Gregory 2-5009 / *C 63
- Automatic fire detection systems; engineered proprietary alarm systems console; ultrasonic, photoelectric, and capacitance burglar alarm systems; temperature monitoring systems / RMSCa Ls Le(1917) ICc
- A. Kinball Co., Div. of Litton Industries, Farmingdale, N.Y. 11735 / 516-MY 4-7300 / *C 64
- High-speed punched tag reader, PM "73" machine, kard pack / MSa ?s Le(1876) Dc
- 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 / RMa Ss(30) Se(1960) Ic
- 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 / RMa Ls(700) Le(1916) Ic
- The Walter S. Kraus Co., 48-02 43 St., Woodside 77, N.Y. / Stillwell 4-5922 / *C 64
- Electronic controls for exact control / RMa Ss(17) Me(1941) Ic
- Kurman Electric Co., Div. of Kurman Instruments Corp., 191 Newel St., Brooklyn, N.Y. 11222 / 212-EV 3-8000 / *C 64
- Computer components, relays / RMSa Ms(90) Le(1928) Ic
- L
- Labelon Corp., 10 Chapin St., Canandaigua, N.Y. / 394-6220 / *C 64
- Ribbons for all types of printers / MSa Ms(170) Le(1898) Ic
- Lamson Corp., Lamson St., Syracuse 1, N.Y. / 315-HO 3-0221 / *C 61
- Lamson Airtubes[®] / MSa Ls(1100) Le(1880) Ic
- Larson Instrument Co., Greenbush Rd., Orangeburg, N.Y. / 914-EL 9-2310 / *C 64
- Meter controller and event recorders / Ra Ss(12) Se(1957) Ic
- Lavoie Laboratories, Inc., Matawan-Freehold Rd., Morganville, N.J. 07751 / 201-566-2600 / *C 64
- Robotester, tape programmed automatic test set / Ma Ms(500) Me(1940) Ic
- Leach Corp., 405 Huntington Drive, San Marino, Calif. / 602-3506 / *C 61
- Manufacture electronic, electro-mechanical components and systems, data recording equipment and systems, telemetry equipment / RMSa Ls(1000) Le(1919) Ic
- Lear Siegler, Inc., Power Equipment Div., P. O. Box 6719, Cleveland, Ohio 44101 / 216-662-1000 / *C 64
- Magnetic particle clutches / Ma Ls(2000) Me(1950) Ic
- Ledex Inc., 123 Webster St., Dayton, Ohio 45402 / 513-224-9891 / *C 64
- 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 / RMSa Ms(325) Me(1942) JSc
- Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia 44, Pa. / 215-DA 9-4900 / *C 64
- Analogue and digital computers for industrial process applications; also data loggers for industrial use / RMSa Ls(3000) Le(1900) DAIC
- Lenkurt Electric Co., Inc., 1105 County Rd., San Carlos, Calif. 94070 / 415-591-8461 / *C 64
- Microwave, multiplex and data transmission systems / Ma Ls(2500) Me(1943) Ic
- LFE Electronics Div., Laboratory For Electronics, Inc., 1075 Commonwealth Ave., Boston, Mass. / - / *C 64
- Guestron, billing and accounting machine / MSa ?s ?e Ic
- Librascope Group, General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / 213-CH 5-8711 / *C 64
- Data processors and computers for air traffic control, business, industrial control, spacecraft guidance, antisubmarine warfare, aircraft navigation and science; computer controls and electronic test equipment; explosive ordnance devices / RMSa Ls(4000) Me(1937) DAICc
- Licon Div., Illinois Tool Works Inc., 6615 W. Irving Park Rd., Chicago 34, Ill. / 312-AV 2-4040 / *C 64
- Full line of precision snap-action switches, illuminated pushbutton switches, environment-free switches / Ma Ms(150) Se(1955) Ic
- Link Group, General Precision, Inc., Systems Div., Binghamton, N.Y. / BA 3-9311 / *C 64
- Mark I computer, Mark II computer for aircraft simulation / RM(simulation RGD service)a Ls(2100) Me(1935) Dc
- Edwin A. Lipps Engineering, 1511 Colorado Ave., Santa Monica, Calif. / - / *C 64
- Magnetic recording heads / Ma ?s ?e Ic
- Lisley Aluminum, Inc., Box 506, Glen Burnie, Md. / Circle 2-7300 / *C 63
- Computer-room free-access flooring. Two types of floor: "ELAFLOOR" — extruded aluminum panels on aluminum or steel support stringers; and "Steel-COR" — steel-armored plywood panels on same support structure / MSCa Ms(100) Se(1950) Ic
- Littlefuse, Inc., 800 E. Northwest Hwy., Des Plaines, Ill. 60016 / VA 4-1188 / *C 64
- Fuses, fuse posts, fuse mountings, and other circuit protective devices / Ma Ls(600) Le(1927) Ic
- 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) / RMSa Ls(2500) Me(1945) Ic
- Lockheed Electronics Co., Avionics and Industrial Products Div., 6201 E. Randolph St., Los Angeles 22, Calif. / OV 5-7070 / *C 63
- Electronic ceramics consisting of ferrites, ferrite cores, memory planes, logic module assemblies, multi-aperture devices, and memory units / RMa Ls(600) Se(1959) Ic
- Lockheed Electronics Co., Information Technology Div., U.S. Highway 1, Metuchen, N.J. / Liberty 9-5000 / *C 63
- Computer centered systems including data transmission / RMPsa Ms(120) Me(1945) DIC
- Logitek, Inc., 42 Central Drive, Farmingdale, L.I., N.Y. / 516-MY 4-3000 / *C 64
- Time code generators, translators, sequencers, programmers / RMa Ss(45) Se(1961) Ic
- Loral Electronics Corp., 825 Bronx River Ave., The Bronx, N.Y. 10472 / TI 2-9500 / *C 64
- Special purpose digital and analog computers / RMSCa Ls(2255) Me(1948) DAc
- Lutter, Maremont and Co., Inc., 35 E. Wacker Dr., Chicago 1, Ill. / 312-332-6935 / *C 64
- Operations research, numerical analysis, systems design, programming, contractual processing, computer time, used computer placement / Sca Ss(25) Se(1962) Ic

Roster of Organizations

- 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 / Ma Ms(75) Se(1961) Ic
- Machine Computing Services, 130 S. Second East, Salt Lake City 11, Utah / Davis 9-9446 / *C 64
Broker of idle computer and punched card equipment time / SCA Ss(8) Se(1960) DIC
- F. B. MacLaren & Co., Inc., 15 Stepar Pl., Huntington Station, L.I., N.Y. / 516-HAMilton 3-4433 / *C 64
Analog computers, servo systems, servo amplifiers, electronic circuits, special purpose / Ma Ss(13) Me(1950) AISC
- The Magnavox Co., 2131 Bueter Rd., Fort Wayne, Ind. / 743-9721 / *C 63
Large scale information storage and retrieval systems, fire control computers, special purpose computers, research and development of data systems / RMSC(development of products) La(9300) Le(1911) DICc
- Magnecraft Electric Co., 5575 N. Lynch Ave., Chicago, Ill. 60630 / AV 2-5500 / *C 64
High speed relays for computers / Ma Ms(125) Me(1951) Ic
- Magne-Head, a div. of General Instrument Corp., 3216 W. El Segundo Blvd., Hawthorne, Calif. / OSborne 9-3377 / *C 63
Magnetic memory drums, magnetic heads, reading and recording / MSA Ms(225) Le(1923) Ic
- 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 / MSA Ss(10) Se(1959) Ic
- 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 / RMSa Ms(385) Me(1949) Ic
- Management Assistance Inc., 40 Exchange Place, New York 5, N.Y. / HAnover 2-1234 / *C 64
Data processing company specializing in the purchasing and leasing of used IBM business machines. Offers 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 / MRSCPA Ms(180) Se(1957) Ic
- Management Research Assoc., 14 Hill Drive, Dune Acres, Chesterton, Ind. / - / *C 63
Multiple purpose self-trainer, pull-tab cards / Ma ?s ?e Ic
- Management Science Training Institute, 430 Park Ave., New York 22, N.Y. / 212-Plaza 5-0400 / *C 64
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. / Pa ?s ?e Ic
- Management Systems Corp., 1 Story St., Cambridge, Mass. 02139 / UN 4-9450 / *C 64
Management consulting / Ca Ms(100) Se(1960) Ic
- Marginal Punched Stock Forms, Inc., 9 East 38th St., New York, N.Y. 10016 / OR 9-7434 / *C 64
Carbon interleaved stock and custom made forms / Sa Ss(18) Se(1957) Ic
- Markite Corp., 155 Waverly Place, New York 14, N.Y. / OBegon 5-1384 / *C 63
Precision potentiometers; conductive plastic type. Rotary and rectilinear configuration; both function (non-linear) and linear output, for computers and servo controls; conductive plastic type precision rotary switches / RMSa Ms(375) Me(1916) DAIC
- Massachusetts Institute of Technology, 77 Massachusetts Ave., Cambridge, Mass. 02139 — no longer applicable in field.
- Massey Dickinson Co., Inc., 9 Elm St., Saxonville, Mass. 01706 / 617-877-2511 / *C 64
Programming and data acquisition equipment for behavioral, physiological, psychological, and visual research / MSCa Ss(10) Se(1957) Ic
- Mast Development Co., 2212 E. 12th St., Davenport, Iowa 52803 / 319-323-9729 / *C 64
Random access projectors / RMSa Ss(40) Me(1945) Ic
- Mathatronics, Inc., 257 Crescent St., Waltham, Mass. 02154 / 894-0835 / *C 64
Mathatron desk-top, stored-program digital computer, strip printer / RMSa Ms(50) Se(1962) Dc
- Mathematischer Beratungs- und Programmierungsdienst GmbH., Kleppingstr. 26, Dortmund, Germany / 528697 / *C 63
Electrologica XI / RC(computing center) Ss(40) Se(1957) Ic
- Matrix Research and Development Corp., 11 Mulberry St., Nashua, N.H. / 603-833-3383 / *C 63
Analog to digital converters, regulated power supplies / RMA Ms(85) Se(1960) DIC
- 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 / RMA Ls(847) Me(1935) DAICc
- May Tag & Label Corp., 111 W. 19th St., New York 11, N.Y. / WA 9-0357 / *C 63
Macromatic Pinfeed Automation Labels / MSA Ms(150) Le(1916) Ic
- H. B. Maynard & Co., Inc., 718 Wallace Ave., Pittsburgh 21, Pa. / 371-9600 / *C 63
Manufacturing area computer system consulting — production, inventory, real time systems / Ca Ms(125) Me(1934) Ic
- McDonnell Automation Center, Box 516, St. Louis 66, Mo. / PErshing 1-2121 / *C 64
Complete automation service center / RSC(systems design, programming, data processing) La Ls(630) Se(1961) Ic
- Melcor Electronics Corp., 110 Central Ave., Farmingdale, N.Y. / 516-Mt 4-5570 / *C 64
Amplifiers and power supplies for analog computers / Ma Ms(65) Se(1960) Ic
- Mellonics Systems Development, Inc., 300 Sunnyvale Office Center, Sunnyvale, Calif. 94086 / 408-245-0795 / *C 64
Systems engineering for computer applications, development and implementation of ground data handling environment for satellite control, digital computer programming, satellite feasibility studies, management engineering services, and audio/visual aids / RCA Ms(53) Se(1961) Ic
- Memorex Corp., 1180 Shuman Ave., Santa Clara, Calif. / 408-248-3344 / *C 64
Magnetic tape / Ma Ms(170) Se(1961) Ic
- Mesa Scientific Corp., 2930 W. Imperial Highway, Inglewood, Calif. 90303 / 756-1343 / *C 64
Consulting in computer design and programming, automatic checkout, instrumentation / Ca Ss(25) Se(1957) Ic
- Mesur-Matic Electronics Corp., Church St., Warner, N.H. / 603-456-2285 / *C 63
Digital circuit test equipment / Ma Ss(12) Se(1960) Ic
- M-H Standard Corp., 400 Heaton St., Hamilton, Ohio 45011 / 513-894-7171 / *C 64
Palletflo and Versarack, components for computer controlled live storage racks / Ma Ms(75) ?e Ic
- Micro Measurements Corp., 2412 Norwood, Melrose Pk., Ill. 60160 / 344-2046 / *C 64
Digital counters, timers, process control equipment, rotary transducers / Ma Ss(15) Se(1961) Cc
- Micro Switch, A Div. of Honeywell, 11 W. Spring St., Freeport, Ill. / 232-1122 / *C 64
Precision snap-action and mercury switches including lighted and unlighted pushbutton assemblies / MSA Ls Me(1937) Ic
- Microdot Inc., 220 Pasadena Ave., South Pasadena, Calif. / 213-682-3351 / *C 64
Coaxial connectors, coaxial cable / Ma Ms(400) Me(1950) Ic
- Micro-Lectric, Inc., 19 Debevoise Ave., Roosevelt, L.I., N.Y. / 516-FR 8-3222 / *C 64
Precision wire-wound potentiometers, linear and non-linear, sine cosine / Ma Ss(19) Me(1951) Ic
- Microtran Co., Inc., 145 E. Mineola Ave., Valley Stream, N.Y. / 516-LOcust 1-6050 / *C 64
Industrial and military caliber transformers / Ma Ms(100) Me(1951) Ic
- Midwest Automatic, Inc. of Iowa, 510 Third St., Des Moines 9, Iowa / Ch 4-3103 / *C 63
"Instop" brake; "Slip-Rite" slip clutch / RMA Ss(12) Se(1952) Ic
- Midwest Research Institute, 425 Volker Blvd., Kansas City, Mo. 64110 / LOgan 1-0202 / *C 64
Studies in application of digital and analog computers to business and scientific problems; mathematical analysis and computation; computing service; IBM 1620-1311-1443 systems; contract research; economics research; operations research and analysis; systems engineering; information retrieval, digital and analog simulation / RCA Ms(350) Me(1944) DAIC
- Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / National 7-111 / *C 64
M3000 digital tape systems, analog and audio tape recorder/reproducers, facsimile recorders, recording oscillographs, servo components, telemetry systems and amplifiers / RMSGa Ms(500) Me(1950) DASGc
- Miles Reproducer Co., 598 Broadway, New York 12, N.Y. / WA 5-6985 / *C 64
Sound recorders / Ma Ss(47) Le(1924) Ic
- Milgo Electronic Corp., 7620 N.W. 36th Ave., Miami, Fla. 33147 / Oxford 1-2200 / *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) / RMSCa Ms(400) Se(1955) DAIC
- James Millen Mfg. Co., Inc., 150 Exchange St., Malden, Mass. 02148 / 324-4108 / *C 64
Computer components / Ma ?s Me(1939) Ic
- Mincom Div., Minnesota Mining and Manufacturing Co., 300 S. Lewis Rd., Camarillo, Calif. / 805-482-9851 / *C 64
Magnetic tape systems / Ma Ls(600) Me(1949) Ic
- Minneapolis-Honeywell Co. — name changed to Honeywell Co., which see
- Missouri Research Laboratories, Inc., 2109 Locust St., St. Louis, Mo. 63103 / CH 1-7875 / *C 64
Decimal display computers, logic level translators / RMA Ms(350) Me(1946) DIC
- Monarch Metal Products, Inc., MacArthur Ave., New Windsor (Newburgh), N.Y. / John 2-3100 / *C 64
Data processing accessory equipment and tape handling and storage equipment / RMSa Ms(125) Me(1945) Ic
- Monitor Systems, Inc., Fort Washington, Pa. / Mitchell 6-0100 / *C 63
PCM telemetry/computer interface systems, computer format conversion systems, PCM telemetry ground stations, digital data recording systems, scanning systems, automatic checkout and monitoring systems / RMA Ms(50) Se(1959) DICc
- Monroe Calculating Machine Co., Div. Litton Industries — name changed to Monroe International, Inc.
- Monroe International, Inc., 555 Mitchell St., Orange, N.J. / 201-OR 3-6600 / *C 64
Electronic computers and data processing equipment. Calculating, adding and accounting machines / MSA Ls Le DIC
- Moog Servocontrols, Inc., Industrial Div., East Aurora, N.Y. / NL 2-0220 / *C 64
Servovalves and electrohydraulic servo systems for industrial applications / Ma Ls(1300) Me(1951) Sc
- Moore Associates, Inc., 893 American St., San Carlos, Calif. / 591-5363 / *C 64
Telemetering and data transmission systems / Ma Ms(50) Se(1957) Ic
- Moore Business Forms, Inc., Research Div., 1001 Buffalo Ave., Niagara Falls, N.Y., and elsewhere / - / *C 64
Business forms and forms systems, forms handling equipment / RMSCPA Ls(over 10,000) Le(1882) IMc
- Moran Instrument Corp., 170 E. Orange Grove Blvd., Pasadena, Calif. / Sycamore 6-7158 / *C 63
Special servo systems; resolution multipliers, calibrators, regulated high voltage power supply, radiation measurement equipment, radar survey equipment, radar navigation equipment, servo data printer / RMA Ss(15) Me(1950) Ic
- 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 / Ma Ms(300) Me(1951) Ic
- Motorola Semiconductor Products Inc., 5005 E. McDowell Rd., Phoenix, Ariz. 85001 / 273-6900 / *C 64
Semiconductor products / MSA Ls(5000) Se(1955) Ic
- Moulis Specialties Co., 1013 W. Washington, Bloomington, Ill. / 966-1235 / *C 63
Tape cartridge recorders-playbacks, auto loaders, etc. / RMSCa Ss(30) Me(1945) Ic
- Multnomah Data Processing Center, 430 N.W. 10th Ave., Portland, Ore. 97209 / 224-1410 / *C 64
Commercial data processing center / C(data processing services) La Ms(65) Se(1950) Ic
- Ray Myers Corp., 1302 E. Main St., Endicott, N.Y. / PI 8-0424 / *C 64
Data processing accessory equipment. Systems development and production programs for input/output departments in data handling. Complete floor plan service / RMSCa Ms(50) Se(1955) Ic
- N
- Naniloac Corp., Station B, P. O. Box 2791, Toledo 6, Ohio / Cherry 1-8065 / *C 63
Electronic machine control systems and logic components / Ma Ss(15) Se(1956) DICc
- Nash and Harrison Ltd., 1355 Wellington St., Ottawa, Ontario, Canada / 722-6544 / *C 64
Process control computers. Shift registers, flip flop, schmitt trigger, switching amplifier modules. Digital converters of sheet velocity, etc. / RMSCa Ss(20) Se(1957) DICc
- Natel Engineering Co., Inc., 7129 Gerald Ave., Van Nuys, Calif. / ST 2-4161 / *C 64
AC, DC, frequency signal conditioning components for automatic controls, handling, monitoring and alarm systems / Ma Ss(35) Se(1959) Ic
- National Bureau of Standards, Connecticut & Van Ness Sts., Washington 25, D.C. / Emerson 2-4040, Ext. 7741, 7501 / *C 63
General purpose data processing service. Numerical analysis and programming research / RGP(computing services, statistical and operations analysis) La Ms(95) Me(1947) Ic
- The National Cash Register Co., Main & K Sts., Dayton 9, Ohio / 226-1411 / *C 64
NCR 304, 315, 310, 390 data processing systems; electronic bank posting machines; punched paper tape recorders; card punch couplers; input-output devices; digital computers / RMSa Ls(60,000) Le(1884) DIC
- NATIONAL COMPUTER ANALYSTS, INC., Route 1, R.F.D. #3, U.S. Hwy. No. 1, Princeton, N.J. / 609-921-2272 / *C 64
EDP and information handling systems analysis; design and implementations; programming; consulting; software development; data processing services; banking and automation services; automatic typesetting / Ca Ss(35) Se(1961) Ic
- National Physical Laboratory, Mathematics Div., Teddington, Middlesex, England / TEDdington Lock 3222 / *C 64
Computing service using DEUCE and ACE digital and punched card / RGPca Ms(60) Me(1945) Dc
- National Scientific Laboratories, Inc., 2010 Massachusetts Ave., N.W. Washington 6, D.C. / Hudson 3-4030 / *C 64
Research and development on computer application engineering / R(field engineering) La Ms(300) Me(1948) Ic

Roster of Organizations

NAVCOR (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 / Ma Ms(111) Se(1955) Dlc

Neal Feay Co., 133 La Patera, Goleta, Calif. / - / *C 64

Metal and plastic (not edge lighted) anodized, painted, litho silk-screened, engraved (Anofax[®]) multi-colored anodized panels. Fabrication on tape controlled equipment for accurate repeatability of dimensions / Ma ?s ?e Ic

Neff Instrument Corp., 1080 E. Hamilton Rd., Duarte, Calif. 91010 / EL 7-2201 / *C 64

Amplifiers, power supplies and strip chart recorders / Ma Ss(40) Se(1956) Ic

New Era Ribbon & Carbon Co., Inc., 1218 Cherry St., Philadelphia 7, Pa. / WA 3-0155 / *C 64

All types of computer and tabulator ribbons / MSCa Ss(15) Se(1959) Ic

Simon M. Newman, 1411 Hopkins St., N.W., Washington, D.C. 20936 / DU 7-4672 / *C 64

Consultant in documentation; specializing in information retrieval / Ca Ss(0) Se(1961) Ic

Nexus Research Laboratory, Inc., 19 Needham St., Dedham, Mass. / 326-8414 / *C 63

Solid state operational amplifiers and related modules / RMa Ss(10) Se(1962) Ic

The Nissho Co., Ltd., Electronic Section, Machinery 2nd Dept., 30, Imabashi 3 chome, Higashiku, Osaka, Japan / 202-1201 / *C 63

Sales and service for data processing systems; cooperate with prospects for system survey and data processing planning; computers of various scales; computer related components and devices / SCa Ls(3000) Le(1928) DAic

NJE Corporation, 20 Bright Ave., Kenilworth, N.J. / Br 2-6000 / *C 64

Electronic power supplies / RMa Ms(190) Se(1955) Ic

Non-Linear Systems, Inc., Del Mar Airport, Del Mar, Calif. / Skyline 5-1134 / *C 64

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 / RMSa Ms(350) Se(1952) DAic

Norden Div. of United Aircraft Corp., Helen St., Norwalk, Conn. / 838-4471 / *C 64

Sense amps, differential amps, servo amps, gates, custom analog and digital circuits, all fabricated as monolithic integral circuits; TO-5 or flat package / RMSa Ls(2000) Le(1928) Ic

Normandie Press, Inc., 350 W. 4th St., New York, N.Y. 10014 / OR 5-6500 / *C 64

Dataform labels / Ma Ms(100) Le(1907) Ic

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

Peripheral input and output units / Ma Ms(125) Se(1956) Ic

Northrop Co., 9744 Wilshire Blvd., Beverly Hills, Calif. / Crestview 4-8061 / *C 63

DATICO — automatic checkout equipment; NDC-100 airborne multipurpose digital computer / RMSCa Ls(20,000) Me(1939) Dlc

Northrop Nortronics, Systems Support Dept., 500 E. Orangethorpe, Anaheim, Calif. / 871-5000 / *C 63

Automatic test and checkout systems, optical instruments and systems, countermeasures/explosive ordnance / RMSa Ls(4100) ?e Ic

Norton Associates, Inc., 240 Old Country Rd., Hicksville, N.Y. / 516-0Verbrook 1-6181 / *C 64

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 / RMSCa Ss(less than 50) Se(1953) Ic

Nortronics, A Div. of Northrop Corp., Precision P Products Dept., 109 Morse St., Norwood, Mass. / 762-5300 / *C 64

Precision gyroscopes, gyro systems, inertial components, flight control systems, accelerometers / RMa Ls(1000) Se(1957 as Nortronics Div.) Ic

Nortronics Div., Northrop Corp., 1 Research Park, Palms Verdes Peninsula, Calif. / Spring 2-2321 / *C 64

Automatic checkout equipment, airborne and other digital and analog computers, display systems, astro-inertial and inertial guidance systems / RMa Ls(6100) Se(1957) DAic

Nucleonic Products Co., Inc., 3133 E. 12th St., Los Angeles 23, Calif. / AN 8-3464 / *C 64

Diodes, thermistors, varistors, resistors, transistors / Ma Ms(400) Se(1954) Ic

Nytronic, 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 / RMa Ms(450) Me(1946) Ic

O

OA Business Publications, Inc., 280 Park Ave. W., Elmhurst, Ill. / 312-834-9350 / *C 64

Business Automation News Report and Looseleaf Service for EDP / Sa Ms(65) Le(1904) Ic

Edward Gehman Systems, Box 141, Fairfield, Conn. / 259-1927 / *C 64

Manufacturers and sellers of control panels and wires for IBM and Remington Rand equipment; also data processing accessories and computer tape storage equipment / MSA Ss(15) Me(1949) Ic

Ohio Envelope Co., Lock Box 19086, Cincinnati 19, Ohio / 961-6698 / *C 64

Tabulating forms, filing systems for tab forms and tape filing / M(distributing)a Se(23) ?e Ic

Old Town Corp., 750 Pacific St., Brooklyn, N.Y. 11238 / 212-4A 2-2600 / *C 64

Continuous forms and EDP ribbons / RMSCa Ms(250) Le(1917) Ic

Omnitronics, Inc., Subsidiary of Borg-Warner Corp., 511 North Broad St., Philadelphia 23, Pa. / 215-925-4343 / *C 64

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 / MSA Ls(30,000 Borg-Warner Corp.) Se(1960) DAISC

Operations Research of Tulsa, P. O. Box 800, Tulsa, Okla. 74101 / - / *C 64

Economic research, inventory systems / RMSa ?e Ic

Opto-Electronic Devices, Inc., subsidiary Sigma Instruments, Inc., 170 Pearl St., Braintree, Mass. / - / *C 64

Opto-electronic translators / MSA ?s ?e Ic

Ortronix, Inc., P. O. 8217, Orlando, Fla. / MI 7-4807 / *C 63

Format converters, line repeaters, buffers, logic cards / RMa Ms(420) Se(1959) Ic

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 / Ma Ss(30) Se(1960) SCc

Pacific Data Systems, Inc., 1058 E. 1st St., Santa Ana, Calif. / KI 7-4135 / *C 63

General purpose digital computers / Ma Ss(10) Se(1960) Dc

Pacific Electro Magnetics Co., Inc., 942 Commercial St., Palo Alto, Calif. / 415-321-1177 / *C 64

Ultra-portable instrumentation magnetic tape recorders and related equipment / RMSa Ss(26) Se(1959) Ic

Pacific Relays, Inc., 13915 Saticoy St., Van Nuys, Calif. 91402 / State 2-2360 / *C 64

Relays / Ma Ss(25) Se(1954) Ic

Pacific Tabulating & Statistical Ltd., B202, 355 Burrard St., Marine Bldg., Vancouver 1, B.C., Canada / MU 2-4262 / *C 64

Univac Solid State 80, IBM 1401, IBM unit record equipment available on an hourly use basis / SC(data processing services)a Ss(20) Me(1952) Dlc

Packard Bell Computer, a div. of Packard Bell Electronics, 2700 S. Fairview St., Santa Ana, Calif. 92704 / 714-546-7160 / *C 64

PB250 low-cost general purpose computer and PB440 dual memory stored logic computer. TRICE digital differential analyzer. HYCOMP Hybrid Analog/Digital computing system. 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, multiplexers; sample and hold units, differential amplifiers and other digital and data system equipment. System engineering and fabrication for industry and military; data processing, reduction, acquisition applications / RMS(engineering)a Ms(350) Se(1957) Dlc

John K. Paden Co., 6918 Tokalon Drive, Dallas 14, Texas / DA 7-0270 / *C 64

Electronic data processing management consulting / Ca Ss(2) Se(1960) Ic

Paper Manufacturers Co., 9800 Bustleton Ave., Philadelphia, Pa. 19115 / ORHard 3-4500 / *C 64

Film, fiber, and paper tapes / Ma Ms(250) Le(1905) Ic

Paradynamics Inc., 10 Stepar Place, Huntington Station, L.I., N.Y. / HA 7-7961 / *C 63

Delay lines / Ma Ms(89) Me(1951) Ic

The Ralph M. Parsons Co., Electronics Div., 151 South Delacey, Pasadena, Calif. / MU 1-0461 / *C 63

Miniature magnetic tape recorders and telemetry equipment / Ma Ms(350) Me(1938) Ic

Parzen Research, Inc., 48 Urban Ave., Westbury, L.I., N.Y. / 516-ED 4-3900 / *C 64

Special-purpose information handling systems; telemetry equipment and systems; tone-signaling equipment and systems; digitally controlled oscillators / RM(equipment development)a Ss(25) Se(1962) Ic

Pastoriza Electronics, Inc., 285 Columbus Ave., Boston 16, Mass. / 617-60 6-1918 / *C 64

Special purpose analog and digital computers using Signal Flow modules. Personal Analog Computer, a calculus and dynamics teaching aid. Personal Amplifier Manifold / RMa Ss(25) Se(1961) DAic

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

Miniature pulse transformers, delay lines, toroids, filters / Ma Ms(75) Me(1950) Ic

Pearson Electronics, Inc., 4007 Transport St., Palo Alto, Calif. / 415-326-7205 / *C 64

Pulse and wide-band current transformers, pulse transformers / Ma Ss(12) Se(1955) Ic

Pendar, Inc., P. O. Box 1014, Coeur d'Alene, Idaho 83014 / 200-MO 4-9215 / *C 64

Illuminated pushbutton switchlights, gang switch assemblies, indicators, key-operated switches / Ma Ms(110-115) Me(1946) Ic

Penn Keystone Corp., P. O. Box 350, Derby, Conn. / - / *C 64

Indicator lights / Ma ?s ?e Ic

Perceptual Development Laboratories, 6767 Southwest Ave., St. Louis 17, Mo. / Sterling 1-7300 / *C 63

Variety of training programs dealing with various office skills such as card punch operator training, typewriting training, 10-key adding machine training, basic office skills training / RMSCa Ss(36) Se(1954) Ic

Perfelope Manufacturing Co., 206 E. Cleveland Ave., Newark, Del. / 302-368-2541 / *C 63

Manufacture and sell continuous business forms; manufacture and sell Perfelope Continuous Envelopes / MSA Ss(27) Se(1956) Ic

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 / RMSa Ls(1600) Me(1936) Aic

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 / MSA Ms(94) Se(1954) Ic

George A. Philbrick Researches, Inc., 127 Clarendon St., Boston, Mass. 02116 / 226-1500 / *C 64

Electronic analog computers, operational amplifiers, regulated power supplies / RMSa Ms(150) Me(1946) Aic

Philco Corp., a subsidiary of Ford Motor Co., Communications & Electronics Div., Information Systems Dept., 3900 Welsh Rd., Willow Grove, Pa. / 215-OL 9-7700 / *C 64

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 / RMSc(service bureau operations)a Ls(1350) Se(div. 1958) Dlc

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) / RMSa Ls(1400) Me(1948) Ic

Philco Technological Center, C & Ontario Sts., Philadelphia, Pa. 19134 / 443-6100 / *C 64

Resident school and home study courses; training services / (education)a Ss(25) Se(1957) Dlc

Philips Electronic Instruments, 750 So. Fulton Ave., Mt. Vernon, N.Y. / 914-Mount Vernon 4-4500 / *C 63

X-ray diffractometers, spectrographs, cameras and detectors, industrial radiographic equipment — x-ray and isotopes, electron microscopes, plating thickness gauges, process control instrumentation, electronic and nuclear measuring equipment / RMSCa Ms(350) Me(1942) Ic

Phillips-Advance Control Co., 59 W. Washington St., Joliet, Ill. / 815-723-3431 / *C 64

Electro mechanical, micro-miniature, coaxial and general purpose relays and solenoids / RMSa Ms(400) Me(1945) Ic

Photocircuits Corp., 31 Sea Cliff Ave., Glen Cove, N.Y. / OR 6-8000 / *C 64

Photoelectric paper tape readers, printed circuit motors for capstan drives / MSA Ms(450) Me(1951) Ic

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

Electro-mechanical digital readout devices / MSA Ms Me Ic

Photomechanisms, Inc., 15 Stepar Place, Huntington Station, N.Y. 11746 / 516-HA 3-4411 / *C 64

Rapidata[®] photo processors; cinefluorographic cameras; photographic instrumentation; optics; and electronics / RMSa Ss(40) Se(1952) Ic

Photon, Inc., 355 Middlesex Ave., Wilmington, Mass. / 933-7000 / *C 64

Photographic typesetting and printout devices capable of mixing type sizes and styles with full graphic arts quality, operated from magnetic or paper tape produced by computers / RMSa Ms(250) Me(1951) Dlc

Polyphase Instrument Co., E. Fourth St., Bridgeport, Pa. / BR 9-4660 / *C 64

Transformers, filters, toroidal components, magnetic amplifiers, delay lines / Ma Ms(120) Me(1940) Ic

Pomona Electronics Co., Inc., 1500 East Ninth St., Pomona, Calif. 91769 / 714-623-3463 / *C 64

Manufacturer of molded test accessories / Ma Ss(30) Me(1951) Ic

Potter & Brumfield Division American Machine & Foundry Co., Hwy. 64 East, Princeton, Ind. / Fulton 5-5251 / *C 64

Electromagnetic relays / Ma Ls(1700) Le(1932) Ic

Potter Instrument Company, Inc., 151 Sunnyside Blvd., Plainview, L.I., N.Y. 11803 / Overbrook 1-3200 / *C 61

Roster of Organizations

Digital magnetic tape transports, record-play-back heads and amplifiers, high-speed printers, photoelectric paper tape readers, random access memory systems / RMSa Ls(650) Me(1947) Dlc
 James Addison Potter, Consulting Engineer, 12 Green House Blvd., West Hartford 10, Conn. / 232-7637 / *C 63
 Plan, staff, and execute projects in research, development and design, sales engineering, management consulting, and automation systems consulting / RCPa Ss Se(1960) DAICc
 Albert Pratt, 114 W. Lake View Ave., Milwaukee 17, Wis. / ED 2-8888 / *C 64
 Electronic test equipment / RMSa Ms(480) Me(1934) Ic
 Precision Metal Prods., 41 Elm St., Stoneham, Mass. / 430-3650 / *C 64
 Breadboard kits and circuit boards / Ma Ms(80) Me(1948) Ic
 Premier Metal Products Co. Inc., 337 Manida St., Bronx, N.Y. 10474 / 212-WY 1-6600 / *C 64
 Consoles, racks, chassis, slides, blowers and accessories / MSa Ms(75) Me(1948) Ic
 Procedure Associates Inc., 221 Somerset St., New Brunswick, N.J. 08903 / 249-8347 / *C 64
 Fourier transform computer, frequency response analyzer, signal generators, converters and transducers, phase meters / RMca Ss(8) Se(1969) AISC
 Production Systems, Inc., 144 Moody St., Waltham, Mass. 02154 / 893-2356 / *C 64
 GE 225 computer. Business data processing, programming, systems installations / (service)a Ss(10) Me(1951) Ic
 Programatics Inc., 11753 Wilshire Blvd., Los Angeles, Calif. 90025 / 213-477-2504 / *C 64
 Compilers, assemblers, monitor and operating systems, general systems programming / RC(programming)a Ss(8) Se(1963) Ic
 Programming and Systems Institute, 33 West 42nd St., New York, N.Y. 10036 / - / *C 64
 Courses in every aspect of data processing / (education)a ?s ?e Ic
 Pro-Tex Reel Band Co., 200 Film Bldg., 2108 Payne Ave., Cleveland 14, Ohio / Tower 1-2624 / *C 64
 Tape reel accessories design and development / Ma Ss(6) Me(1946) Ic
 Pulse and Digital Laboratories, Inc., 417 Tremont Ave., Orange, N.J. / 201-Or 2-7904 / *C 64
 Digital transistorized mercury manometers. Fluid measuring and controlling instruments (electronic) / RMSca Ss(7) Se(1961) Ic

Q

Quest Manufacturing Co., 220 W. Monroe St., Chicago 6, Ill. / State 2-7838 / *C 64
 Inked ribbons for all computer/data processing and machine accounting equipment / MSa Ss(30) Le(1918) Ic
 Quindar Electronics Inc., 5 Lawrence St., Bloomfield, N.J. / 201-Pilgrim 3-0700 / *C 64
 Data transmission equipment / MSa Ms(60) Se(1960) Ic

R

Rabinow Engineering Co., Inc., 1425 Research Blvd., Rockville, Md. / 301-762-5310 / *C 63
 Reading machines, sorters / RMca Ms(85) Se(1954) Ic
 Racal Instruments Ltd., Dukes Ride, Crowthorne, Berks, England / - / *C 64
 Counters; electronic and frequency / MSa ?s ?e Ic
 Radiation Inc., Melbourne, Fla. 32902 / PA 3-1511 / *C 64
 Ground/aerospace information handling systems / RMa Ls(1400) Me(1951) Ic
 Rank Precision Industries Ltd., Electronics Dept., Woodger Rd., Hammersmith, London W.12, England / *C 63
 Xeronic high-speed computer printer / RMSca Ls(3500) Me(1948) Ic
 The Rapids Standard Co., Inc., 144 Trowbridge N.W., Grand Rapids 2, Mich. / 451-2081 / *C 64
 Manufacturers of materials handling equipment: conveyors, storage racks, etc. / Ma Ms(300) ?e Mc
 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 / MSa Ls(32,000, total company) Le(1923) Ic
 Raytheon Co., Industrial Components Div., 55 Chapel St., Newton, Mass. 02158 / - / *C 64
 Electron tubes, knobs and other electronic hardware, magnetostriction filters, spectrum analyzers, connectors / MSa Ls(32,000, total company) Le(1923) Ic
 Raytheon Co., Microwave and Power Tube Div., Spencer Laboratory, Burlington, Mass. / 272-9600 / *C 64
 Transformers, including pulse / MSa Ls(32,000, total company) Le(1923) Ic
 Raytheon Co., Semiconductor Div., 350 Ellis St., Mountain View, Calif. / 968-9211 / *C 63
 Avalanche mode switching transistors, all varieties of germanium and silicon transistors, all varieties of germanium and silicon diodes, silicon rectifiers, and photo-sensitive transistors / RMSa Ls(43,000) Le(1923) Ic
 RCA Electronic Data Processing, Cherry Hill, Camden 8, N.J. / W03-0000 / *C 64
 Full range of digital computers, components, supplies and services / RMSC (regional data service centers)a Ls Me(1955) Dlc
 RCA Service Company, Electronic Data Processing Ser-

vice, Bldg. 206-1, Cherry Hill Offices, Camden 8, N.J. / Woodlawn 3-8000, Ext. PY-5041 / *C 63
 Centers located in Cherry Hill, N.J., Washington, Chicago and San Francisco. Systems analyses, programming and data processing services, using RCA 301 or RCA 501 computer systems, specializing in demand deposit banking and subscription fulfillment services / Sca Ms(190) Se(1958) Ic
 Recognition Equipment Inc., 4703 Ross Ave., Dallas 4, Tex. / Taylor 3-8194 / *C 64
 Optical character recognition systems, high-speed document handling equipment, electronic and electromechanical apparatus, visual data displays / RMSa Ms(150) Se(1961) Ic
 Recording & Statistical Corp. (Nationwide and Canada), Pacific Coast Offices: 417 Market St., San Francisco, Calif. / YU 1-7011 / *C 64
 Data Processing and computing servicers. R & S Corp., the first and oldest data processing service organization in the U.S., installed the first commercial computer used by a service center. The company has made a place for itself in the space age with highly technical assistance to CPFF contractors in cost detail reporting, spares provisioning, wiring specifications, listings, etc. / (service bureau)a Ms(500) Le(1911) Ic
 Redcor Corp., 7763 Deering Ave., Canoga Park, Calif. / 348-5992 / *C 64
 Data acquisition system; A-D and D-A converters; digital logic modules / RMa Ms(130) Se(1956) Ic
 Redifon Limited, Computer Dept., Gatwick Rd., Crawley, Sussex, England / CRAWLEY 29311 / *C 64
 General and special purpose analog computers, educational analog computers, analog computer courses, special systems engineering / RMSa Ls(1000) Me(1949) AIC
 Redmond-Fairchild Inc., 610 So. Arroyo Pkwy., Pasadena, Calif. -- moved, left no address
 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 / RMSa Ls(1400) Me(1946) AISC
 Reeves Soundcraft, Div. of Reeves Industries, Inc., Great Pasture Rd., Danbury, Conn. / 743-7501 / *C 64
 Magnetic recording tapes and accessories / RMSCa Ms(300) Me(1946) Ic
 Reflectone Electronics Division - Universal Match Corp., W. Main St., Stamford, Conn. / - / *C 64
 Special purpose digital and analog simulator computers / RM (design and development of military and industrial simulators)a Ms(400) Me(1940) DAICc
 Reinhold Book Div., Reinhold Publishing Corp., 430 Park Ave., New York 22, N.Y. / MU 8-8600 / *C 64
 Technical books on the subjects of computers, automation, automatic control and electronics / Se(40) Le(1926) Ic
 Resdel Engineering Corp., 990 South Fair Oaks Ave., Pasadena, Calif. / 799-9161 / *C 63
 Analog to digital and digital to analog converters; special custom data processing and acquisition systems / RMa Ms(120) Me(1951) Dlc
 Rese Engineering, Inc., A & Courtland Sts., Philadelphia, Pa. 19120 / 215-G15-9000 / *C 64
 Magnetic core memories, special purpose computers and digital instrumentation / Ma Ss(30) Se(1953) Dlc
 Resistance Products Co., 914 S. 13th St., Harrisburg, Pa. 17104 / 236-5081 / *C 64
 Resistors: wirewound, carbon film high voltage, high frequency, high megohm, and resistance networks / Ma Ms(300) Me(1947) Ic
 Rheem Electronics, 5250 W. El Segundo Blvd., Hawthorne, Calif. 90251 / 213-772-5321 / *C 64
 Photocell punched tape readers and tape spoolers / RMSa Ms(75) Se(1960) Ic
 Rixon Electronics, Inc., 2121 Industrial Pkwy., Silver Spring, Md. / 301-622-2121 / *C 64
 Custom engineering and manufacturing of complex electronic equipment. Data communications equipment includes Sebit-24B, Septah, DD Line, Adfax, Paser, and Sebit-36M data message composer. Special purpose digital and analog laboratory equipment, solid-state relays and special purpose filters / RMSa Ms(125) Se(1957) Ic
 RMS Associates, Div. of Information Displays, Inc., 102 E. Sandford Blvd., Mt. Vernon, N.Y. / 914-OW 9-5515 / *C 64
 Computer controlled character writing CRT display system / Ma Ss(40) Me(1945) Ic
 Robins Data Devices, Inc., 15-58 127th St., Flushing, N.Y. 11355 / HI 5-7200 / *C 64
 Splicers for magnetic computer tapes, splicers for punched computer tapes, hand encoder, Data-Saver Kit for edged punched cards / Ma Ms(50) Se(1954) Ic
 Robotonics Enterprises, Inc., 4504 N. 16th St., Phoenix 16, Ariz. / 266-8692 / *C 63
 Alpha-numerical displays and computer message display; numerical displays; electronic counters / RMa Ss(25) Se(1960) Ic
 Rockford Research Institute Inc., 140 1/2 Mt. Auburn St., Cambridge, Mass. 02138 / Trowbridge 6-6776 / *C 64
 Information retrieval research and artificial intelligence research / Ra Ss(5) Se(1951) Ic
 Rotiform Corp., 1925 Pontius Ave., Los Angeles 25, Calif. / 213-473-9920 / *C 64
 Card readers, static / Ma Ss(26) Se(1957) Ic

ROTRON MANUFACTURING CO., INC., Hasbrouck Lane, Woodstock, N.Y. 12490 / 914-679-2401 / *C 64
 Cooling equipment, fans and blowers for electronics industry / Ma Ms(485) Me(1949) Ic

S

Saab Aircraft Co., Electronics Div., Linköping, Sweden / 013/30023 / *C 63
 Digital computers; commercial and technical data processing, process control, special purpose, airborne, ground. Converters. Magnetic tape systems. Numerical control systems. Computing service / RMSca Ls(550) Me(1949) Dlc
 Sage Electronics Corp., Box 3926, Rochester 10, N.Y. and 1 Country Club Drive, East Rochester, N.Y. / Ludlow 6-8010 / *C 64
 Miniature wirewound precision power resistors / Ma Ms(110) Me(1948) Ic
 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 / Ma Ls(1000) Le(1917) Ic
 Sanders Associates, Inc., 95 Canal St., Nashua, N.H. / Tuxedo 3-3321 / *C 64
 Digital logic circuitry and special computers / RMa Ls(3000) Me(1951) Dlc
 Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / 217-544-6411 / *C 64
 Capacitors, inductive components, magnetic tape recorder/reproducers, crystal filters, ultrasonic delay lines, servo motors / Ma Ls(5000) Le(1899) ISc
 Saunders & Co., 53 Everett CAA, Waltham 54, Mass. / TW 4-6071 / *C 63
 Manufacturers representatives / (instruments, components, mechanisms) / Sa Ss(3) Se(1954) Ic
 The Scan Instrument Corp., 7401 N. Hamlin Ave., Skokie, Ill. / OR 5-2500 / *C 64
 Design and manufacture analog/digital data scanners, loggers, digital controllers, recording annunciators, graphic control panels, special purpose digital computers. Also G.P. programming services / RMca Ms(300) Me(1945) DAIC
 Scan-Am Co., 4108 W. Crystal Lake Rd., McHenry, Ill. / 815-385-3499 / *C 64
 Ring-Master intercommunication system / SC (installing communication systems)a Ss(20) Se(1959) Ic
 Schaevitz-Bytrex Corp., 50 Hunt St., Newton, Mass. 02158 / 617-926-0360 / *C 64
 Multi-channel strain gage data loggers, digital recording systems, electronic weighing and measuring systems, transducers / Ma Ms(50) Se(1957) Ic
 Scientific Data Systems, Inc., 1649 17th St., Santa Monica, Calif. / UP 0-5471 / *C 64
 Four low cost, high performance, solid-state magnetic core, general purpose digital computers, the SDS 910, SDS 920, 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 / MSa Ls(550) Se(1961) Dlc
 Scientific Development Corp., 131 Lexington St., Waltham, Mass. / TW 9-5330 / *C 63
 Nordac, Minivac 601 and Minivac 6010 -- small computer simulators designed for educational/training purposes / Ma ?s ?e Ic
 Sealectro Corp., 225 Hoyt Ave., Mamaroneck, N.Y. / - / *C 64
 Plugboards and switches / MSa ?s ?e Ic
 Seismograph Service Corp., Box 1590, Tulsa, Okla. / - / *C 64
 Optical analog computer / MSa ?s ?e Ac
 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 / RCPa Ls(1600) Le(1932) DAIC
 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 / RMa Ms(under 500) Me(1946) Ic
 Shand and Jurs Co., 2630 Eighth St., Berkeley 10, Calif. / 848-2345 / *C 63
 Dataloggers, telemetering systems, data-handling equipment / RMSa Ms(175) Le(1920) Ic
 Robertshaw Controls Co., Aeronautical & Instrument Div., Santa Ana Freeway at Euclid St., Anaheim, Calif. / - / *C 64
 Telegraph and data terminal equipment for all types of transmission media / Ma ?s ?e Ic
 Shelby Business Forms, Inc., High School Ave., Shelby, Ohio / 2-2010 / *C 64
 Business forms / MSa Ls(675) Le(1904) Ic
 Shepard Laboratories, Inc., 480 Morris Ave., Summit,

Roster of Organizations

- N.J. / 201-CR3-5255 / *C 63
Small and large high-speed typers for data processing field / RMCa Ss(40) Me(1940) Ic
- S-I Electronics, Inc., 103 Park Ave., Nutley 10, N.J. / NO 7-0055 / *C 61
Magnetic memory systems / RMa Ms(55) Se(1959) Ic
- F. W. Sickles Div., General Instrument Corp., 165 Front St., Chicopee, Mass. / LYceum 4-4701 / *C 64
Computer components; electromagnetic delay lines, lumped constant and distributed constant, fixed and variable step; audio and ultrasonic filters; toroidal inductors; embedded assemblies; LC tuned circuits; etc. / Ma Ls(1900) Le(1921) Ic
- Sigma Instruments, Inc., 170 Pearl St., Braintree, Mass. / - / *C 64
Cyclotome—stepping motor / MSa ?s ?e Ic
- Sigmatronics Corp., 680 W. Maude Ave., Sunnyvale, Calif. / 408-739-7700 / *C 63
Semiconductor integrated circuits for digital and linear applications / RMsA Ms(175) Se(1961) Ic
- Simplex Time Recorder Co., 24 South Lincoln St., Gardner, Mass. / 632-2500 / *C 63
Productograph machines, monitoring, read-back systems / RMsCA ?s ?e Ic
- The Simulatics Corp., 16 E. 41st St., New York 17, N.Y. / LE 2-7980 / *C 64
Applications of computer techniques to marketing economic, and behavioral problems including simulation, gaming, and information retrieval / RCa Ss(20) Se(1959) Ic
- The Singer Company, Metrics Div., 915 Pembroke St., Bridgeport, Conn. 06608 / 203-365-3201 / *C 64
Electrical and electronic test, calibration and measurement instrumentation / RMsA Ls(1095) Le(1051) Ic
- Skottite Electronics, 204 Bridge St., Peckville, Pa. / - / *C 64
Disc and tubular ceramic capacitors / Ma ?s ?e Ic
- Societe d'Electronique et d'Automatisme, 17-19, rue du Moulin des Bruyeres, COUREVOIE (Seine) France / DEFense 41-20 (DEF. 41-20) / *C 64
Analog computers Type NADSC 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, digital to analog converter "ENAC"; automation devices, coders, storage, etc.; numerical control / RMsA Ls(500) Me(1940) DAScIc
- Solid State Electronics Corp., 15321 Rayen St., Sepulveda, Calif. / 354-2271 / *C 64
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 / RMc(testing) a Ss(18) Se(1958) Ic
- Sonic Memory Corp., 494 Oak St., Copiague, N.Y. / Myrtle 1-0010 / *C 63
Magnetostrictive delay lines / RMCa ?s Se(1961) Ic
- Southwestern Computing Service, Inc., 1631 So. Boston, Tulsa 19, Okla. / LUther 7-8146 / *C 64
Computing service, solving data reduction, engineering and business problems; Alwac III, Burroughs B250, IBM unit record equipment; programming / RC(service) a Ss(12) Se(1953) DACPa
- Sparton Corp., 2400 E. Ganson St., Jackson, Mich. 49202 / ST 4-9131 / *C 64
Printed circuit designs; printed circuit boards; printed circuit board assemblies / RMa Ls(2300) Le(1900) Ic
- Sperry Farragut Co., Div. of Sperry Rand Corp., Bristol, Tenn. / 969-1151 / *C 64
Amplifiers; packaged computer circuits, plug-in circuits; printed circuits; computer tape coils; analog computers; computer components; fire control equipment; systems engineering / RMa Ls(1000) Me(1951) AIC
- Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N.Y. / 516-IR 4-0111 / *C 64
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 / RMa Ls(14,000) Le(1912) DAIC
- Sprague Electric Co., 377 Marshall St., No. Adams, Mass. / 661-4411 / *C 64
Capacitors, transistors, resistors, magnetic shift registers, integrated microcircuits, thin-film microcircuits, pulse transformers, toroidal inductors, packaged digital circuits, delay lines / Ma Ls(8500) Le(1926) Ic
- Stackpole Carbon Co., Stackpole St., St. Marys, Pa. / Terminal 4-1521 / *C 63
Carbon and graphite products and electronic and electromechanical components / Ma Ls(2800) Le(1906) Ic
- The Standard Register Co., 625 Albany St., Dayton, Ohio. 45101 / 513-223-6181 / *C 64
Business forms for source data collection (input and output) EDP equipment plus forms handling equipment (burstors, separators, etc.) / MSa Ls(3900) Ic(1912) Ic
- Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / 312-DEarborn 2-2484 / *C 64
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 / RMCSPA Ls(5000) Me(1933) DIC
- 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 / RMa Me(80) Se(1961) Ic
- Stereotronics, 53 Everett St., Waltham, Mass. 02154 / - / *C 64
Ultra low noise amplifier line / MSa ?s ?e Ic
- Strato-Floor, Inc., 795 East 152nd St., Cleveland, Ohio 44110 / 451-3322 / *C 64
Elevated flooring / MSC(installation) a Ss(10) Se(1960) Ic
- Straza Industries, Electronics Div., 790 Greenfield Drive, El Cajon, Calif. / Hickory 2-3451 / *C 64
High speed symbol and line generators; hard copy camera; microfilm printer / RMsA Ms(425) Se(1952) Ic
- Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia 15, Pa. / ORchard 3-5600 / *C 64
Testing and measuring equipment, calibration, certification. Analog field plotter, prototypes, precision electromechanical assemblies, mechanical components / RMsCA Ss(35) Me(1947) AIC
- Superex 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 / RMsA Ms(60) Se(1950) Ic
- The Superior Electric Co., 383 Middle St., Bristol, Conn. 06012 / 203-LU2-9561 / *C 64
Synchronous and stepping motors; pulse-to-step translators; preset indexers; variable transformers; automatic voltage regulators; electrical connectors / Ma Ls(800) Me(1938) Ic
- Superior Manufacturing & Instrument Corp., 36-07 20 Ave., Long Island City 5, N.Y. / YE 2-1800 / *C 63
Analog computers, solid state data processing equipment; A-D and D-A conversion systems, servomechanisms / RMa Ms(150) Me(1951) DAISc
- Swingline, Inc., 3200 Skillman Ave., Long Island City 1, N.Y. / ST 4-8555 / *C 63
Office equipment used with computing, processing, collating equipment: electric staplers, heavy duty staplers, staples, electric pencil sharpeners / Ma Ls(2000) Le(1923) Mc
- Switchcraft, Inc., 5555 N. Elston Ave., Chicago, Ill. 60630 / 312-774-1515 / *C 64
Manufacturer jacks, plugs, jack panels, patch cords, connectors, lever, rotary, push button and multiple station switches, and cable assemblies / RMsA Ms(350) Me(1946) Ic
- Sylvania Electric Products, Inc., Semiconductor Div., 100 Sylvan Rd., Woburn, Mass. / WE 3-3500 / *C 64
Semiconductor products / RMa Ls(1800) Me(1942) Ic
- Sylvania Electronic Systems, 40 Sylvan Rd., Waltham 54, Mass. / TWInbrook 4-8444 / *C 64
Small, medium, and large-scale computers; special and general-purpose; terminal and switching equipment; programming services / RMsCA Ls(12,000) Se(1955) DAICc
- Systematics, a Div. of General Instrument Corp., 3216 W. El Segundo Blvd., Hawthorne, Calif. / - / *C 63
Tape to card converters, card to tape converters, tape to tape converters, tape and card communication systems, data system input/output devices / RMa Ss(175) Se(1955) Ic
- Systemation Div., Ross-Martin Co., 6504 E. 44th St., P.O. Box 900, Tulsa, Okla. / 918-NA7-4460 / *C 64
Fifty week systems course; also semi-monthly publication "The Systemation Letter" / RS (training) a Ms(200) Le(1916) Ic
- Systems Data Processing Co., 908 15th St., Sacramento 14, Calif. / 444-0152 / *C 64
B-260 computer services; IBM 407-402 tabulating services. Punched paper tape and Kimball punched ticket data processing, programming, key punching / (data processing services) a Ss(16) Se(1950) Ic
- Systems Engineering Laboratories, Inc., P.O. Box 9148, 4066 N.E. Fifth Ave., Fort Lauderdale, Fla. 33310 / LD 4-7616 / *C 64
Digital data acquisition, processing and control systems. A/D and D/A converters, multiplexers, memories, amplifiers, circuit cards, read and write electronics, computers / RMsA Ms(200) Se(1961) DICc
- Systems Programming Corp., 1833 E. 17th St., Santa Ana, Calif. / KI 7-0069 / *C 63
Computer programming and consulting / Ca Ss(30) Se(1962) Ic
- Systems Programming, Inc., 3150 Wilson Blvd., Arlington 1, Va. / 525-5206 / *C 63
Design and development of linear programming, statistical and other special computer applications systems / RMC(software systems programming) a Ss(15) Se(1963) Ic
- Systems Research Corp., 7635 Tobias Ave., Van Nuys, Calif. / TR 3-3311 / *C 63
Manufacture and design of highly stable and special purpose voltage sources and power supplies / Ma Ss(35) Se(1958) Ic
- Systems Research Laboratories, Inc., 500 Woods Dr., Dayton, Ohio 45432 / 426-4051 / *C 64
Consulting and mathematical services, research and development of scientific data processing systems, computer programming / RCa Ms(215) Se(1954) Ic
- Systems Sales Co., a div. of Systems Mfg. Corp., 13 Broad St., Binghamton, N.Y. / 723-6344 / *C 64
Tabulating and computer accessories / MSCa Ms(less than 300) Me(1945) Ic
- Systron-Donner Corp., 888 Galindo St., Concord, Calif. 94520 / 415-692-6161 / *C 64
Analog computers and components, multi-channel data acquisition systems / RMa Ms(375) Se(1960) AIC
- T
- Tab Products Co., 550 Montgomery St., San Francisco, Calif. / - / *C 64
Data processing auxiliary and computer room equipment / Ya ?s ?e Ic
- Tabulating & Business Services Inc., 136 W. 52 St., New York 19, N.Y. / 212-C15-8000 / *C 63
Data processing and computer services including programming and data processing consulting / RMs(merchant research) a Ms(110) Me(1956) Ic
- 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 / MSa Ms(129) Me(1951) DIC
- Tally Register Corp., 1310 Mercer St., Seattle 9, Wash. / MAIn 4-0760 / *C 63
Perforated tape readers and punches, digital plotters, computer input-output, display, and data data transmission equipment / MSa Ms(80) Me(1951) DIC
- Taurus Corp., Academy Hill, Lambertville, N.J. / EXport 7-2390 / *C 64
Static punched card readers, Teflon insulated terminals / RMsCA Ms(70) Se(1956) Ic
- Technical Advisors, Inc., Municipal Court Bldg., Ann Arbor, Mich. 48108; 709 Bank of America Bldg., San Diego, Calif. 92101 / (Mich.) 313-722-5010; (Calif.) 714-234-6933 / *C 64
Digital computer service bureau using RPC-4000 / Ca Ss(10) Se(1954) DC
- Technical Information Company, Ltd., Chancery House, Chancery Lane, London, W.C.2, England / - / *C 63
Publishers of "Computer Abstracts" and "Computer News" / Ms(130) Me(1951) Ic
- Technical Operations Research, a div. of Technical Operations, Inc., South Ave., Burlington, Mass.; Washington Research Center, 3600 M St., N.W. Washington, D.C. / Burlington: BRowning 2-2000; Washington: FEderal 3-9200 / *C 64
Industrial, commercial and military operations research; automatic programming systems and digital simulations; war gaming (access to computers) / RCa Ls(600) Me(1951) Ic
- Techniques, Inc., 40 Jay St., Englewood, N.J. / 201-LO9-5333 / *C 64
Printed circuits; blank modular P.C. boards with circuits for digital operations; photo-etched metal parts / RMsA Ss(under 50) Se(1954) Ic
- Techni-rite Electronics, Inc., 65 Centerville Rd., Warwick, R.I. / 401-737-2000 / *C 64
Data recording equipment, oscillographs / Ma Ms(80) Se(1959) Ic
- Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia 34, Pa. / 215-GA6-9105 / *C 63
Custom built digital data processors, high speed print stations, buffer memories. Pulse transformers, electromagnetic delay lines. Programming, computer maintenance / Ms(350) Me(1947) DAIC
- Tech Panel Co., Inc., 37 Milford St., Binghamton, N.Y. / 607-RA3-8231 / *C 63
Control panels, accessories and wires. Forms burstors and delevators / MSa Ss(13) Se(1959) Ic
- Tech Serv Inc., 5451 Holland Drive, Beltsville, Md. / 474-2900 / *C 64
Transistorized digital logic elements and digital systems / Ma Ss(45) Se(1959) DIC
- TELAutograph Corp., 8700 Bellanca Ave., Los Angeles, Calif. 90045 / 213-OR 8-4756 / *C 64
Graphic communications systems/equipment for transmission of handwriting (instantaneous) or facsimile (page-a-minute) / MSa Ms(250) Le(1888) Ic
- Telecomputing Corp. -- name changed to Whittaker Corp., which see
- Telecomputing Services, Inc., 8155 Van Nuys Blvd., Panorama City, Calif. / 213-781-7960 / *C 64
Services for the study, design, implementation and operation of data reduction and data processing systems. Data measurement, programming, and computer services available on an hourly basis. Extensive data reduction experience at missile test ranges, including the development and operation of automatic telemetry data reduction. Management data; inventory control, PERT, labor-distribution, payroll, etc., available on IBM 1401, 7094 / C(program solving) a Ms(415) Me(1947) Ic
- 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 / Ma Ms(300) Se(1959) Ic
- The Teleregister Corp., 445 Fairfield Ave., Stamford,

Roster of Organizations

- Conn. / FI 8-4291 / *C 64
Data processing systems, designed for particular applications, including input/output, integrated communications; data display and storage facilities, and central processors. Over 1,000,000 hours' experience with commercial on-line operation; systems designed, built and maintained / MSRCGA Ls(1100) Le(1929) DIC
- Teletype Corp., 5555 Touhy Ave., Skokie, Ill. / 312-407-6700, 312-OR6-1000 / *C 64
Message and data communications equipment. Tape readers and tape punches for computer input/output. Page printers / RMSA Ls(5000) Le(1907) Bell System (1930) Ic
- Telex/Aemco, a div. of Telex, Inc., 30 State St., Mankato, Minn. / 388-6288 / *C 64
Manufacturing electro-magnetic relays and industrial timers / Ma Ms(300) Le(1918) Ic
- Telletron Corp., a subsidiary of Stone Laboratories Inc., 1312 Tremont St., Boston 20, Mass. / 617-427-3600 / *C 63
Information retrieval systems, data retrieval and processing systems / MSa Ss(10) Se(1959) DIC
- Tempo Instrument Inc., E. Bethpage Rd., Plainview, L.I., N.Y. / 516-MY4-4400 / *C 64
Timers, timing sequence programmers, precision time base generators, data logging systems / RMa Ms(150) Se(1956) Ic
- M. Ten Bosch, Inc., 80 Wheeler Ave., Pleasantville, N.Y. / 914-RO9-3000 / *C 64
Amplifiers, automatic controls, servo mechanisms / RMa Ms(60) Me(1950) ISCC
- Texas Instruments Inc., 13500 N. Central Expressway, Dallas 22, Tex. / 214-AD5-3111 / *C 64
Semiconductor products and components, silicon and germanium transistors, silicon diodes and rectifiers, resistors, tantalum capacitors / RMa Ls(8000) Se(1954) Ic
- Texas Instruments Inc., Industrial Products Group, 3609 Buffalo Speedway, Houston 6, Tex. / JA 6-1411 / *C 63
Pulse generators, transistor and component testers, analog to digital converters / Ma Ms(500) Le(1930) Ic
- Thermosen, Inc., 375 Fairfield Ave., Stamford, Conn. / - / *C 64
MULTIREED relays / ?a ?s ?e Ic
- Theta Instrument Corp., Saddle Brook, N.J. 07663 / - / *C 64
Shaft encoders, analog-digital converters / Ma Me(150) Se(1956) Ic
- Thompson Ramo Wooldridge, Inc. -- name changed to Bunker-Ramo Corp., which see
- Time & Frequency, 127 S. Batavia Ave., Batavia, Ill. / 312-879-7800 / *C 63
High precision time standards, real time generators, precision oscillators / RMa Ss(18) Se(1959) Ic
- Torotel, Inc., 5512 E. 110, Kansas City, Mo. 64137 / 816-SO 1-6314 / *C 64
Magnetic amplifiers, delay lines, pulse transformers / Ma Ms(95) Se(1956) Ic
- Townson Laboratories, Inc., 3500 Parkdale Ave., Baltimore, Md. 21211 / 301-367-4001 / *C 64
A/D converters and multiplexers / RMa Ss(25) Se(1959) Ic
- Trak Electronics Co., Inc., 59 Danbury Rd., Wilton, Conn. / 203-762-5521 / *C 64
Morse-to-teletype code converters, TWX-to-CIT translators; teletype multiplexers, Digistore / RMa Ms(250) Me(1947) Ic
- Traid Corp., 17136 Ventura Blvd., Encino, Calif. / 213-873-3373 / *C 63
Photographic instrumentation equipment, high-speed and data recording motion picture cameras and related accessories, advanced electronic miss-distance systems / RMSa Ss(40) Me(1946) Ic
- Transformer Design Inc. of Milwaukee, 7377 North 76th St., Milwaukee, Wisc. 53223 / 414-FL 3-8017 / *C 64
Transformers, reactors, saturable reactors, filters, power supplies, etc. / RMa Ss(10) Se(1954) Ic
- Transistor Electronics Corp., Box 6191, Minneapolis 24, Minn. / 612-941-1100 / *C 64
Display devices for computers, precision sub-assembly of printed circuit modules / Ma Ms(210) Me(1957) Ic
- Transit 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 / RMSa Ss(30) Se(1959) Ic
- Transitron Electronic Corp., 168 Albion St., Wakefield, Mass. / 617-245-4500 / *C 63
Semiconductors / RMSa Ls(3000) Me(1952) Ic
- Transkrit Corp., 704 Broadway, New York 3, N.Y. / 212-OR3-2200 / *C 64
Magnetic ink encoding, consecutive MICR numbering, including modules and self-check / Ma Ms(100) Me(1938) DIC
- 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 / MC(special design) a Ss(20) Se(1957) DIC
- Triad Distributor Div., Litton Industries, 305 N. Briant St., Huntington, Ind. / - / *C 64
Transformers and inductors / ?a ?s ?e Ic
- Triton Electronics, Inc., 62-05 30th Ave., Woodside 77, N.Y. / RA 1-7500 / *C 63
Computer magnetic tape / Ma Ms(65) Me(1939) Ic
- Trompeter Electronics Inc., 7238 Eton Ave., Canoga Park, Calif. / 213-346-1550 / *C 64
Computer components / Ma Ss(15) Se(1960) Ic
- TRW Computers, a div. of Thompson Ramo Wooldridge, Inc. -- name changed to Bunker-Ramo Corp., which see
- 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 / RMa Ls(7000) Se(1954) DAIC
- Tung-Sol Electric Inc., 1 Summer Ave., Newark 4, N.J. / 201-HU 4-8500 / *C 64
Electronic components for computers / Ma ?s ?e Ic
- U
- Uarco Inc., West County Line Rd., Barrington, Ill. / 381-4030 / *C 64
All types of business forms and forms handling equipment / RMSCa Ls(2700) Le(1894) Ic
- H. W. Ulmer Co., 3018 San Luis Rey Rd., Oceanside, Calif. / 722-1511 / *C 63
Vacuum tubes including data display. Vacuum systems and gauges. Fabrication equipment, stored energy welders. Micro module circuit assembly and encapsulations / RMa Ss(40) Se(1961) Ic
- Underwood Corp., 1 Park Ave., New York 16, N.Y. / Oregon 9-3400 / *C 63
Paper tape producing equipment and paper tape to card, paper tape to magnetic tape converters. Portable, manual, electric, and variable space electric typewriters; manual and electric adding machines; high speed one- and two-register printing calculators; Audit accounting machines, with fully automatic programming, with or without electric typewriter keyboards; Mercator billing / accounting machines, with fully automatic programming, electric typewriter keyboards, high-speed solid-state electronic multiplying units, and integral paper tape punches; Data-Flo Mercator billing/accounting machines, with fully automatic programming, electric typewriter keyboards, high-speed solid-state electronic multiplying units, and integral paper tape punches; Data-Flo Tape to Card Converters, to convert Data-Flo paper tape into punched cards at 6000 cards per hour, with completely flexible plug-board programming, and automatic self-verification / RMSa Ls(8000) Le(1894) DISC
- Unimation Inc., 16 Durant Ave., Bethel, Conn. / 744-1800 / *C 63
Magnetic storage and memory systems, automatic controls, digital automation, magnetic drums, Unimate robot / RMSa Ms(250) Se(1962) DAISCMC
- Union Switch & Signal Div. of Westinghouse Air Brake Co., 1700 Braddock Ave., Pittsburgh 18, Pa. / 412-242-5000 / *C 64
"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 / RMSa Ls(1500) Le(1801) IC(control systems engineering)c
- United Research Services Inc., 1811 Trousdale Drive, Burlingame, Calif. / DI4-7625 / *C 63
Analysis, design and programming of automatic data processing systems for administrative, management support, command and control, and other information processing operations and functions / RCPa Ms(69) Se(1952) DAIC
- U.S. Air Force, Computation Div., Data Services Center, AFADS-B, Headquarters USAF, Washington 25, D.C. / 202-0X7-7275 / *C 64
Management science, computing systems and computer programming / (management systems and computational support for decision making) a Ms(86) Me(1948) Ic
- U.S. Army, Ballistic Research Laboratories, Aberdeen Proving Ground, Md. / CRestwood 2-4000, Ext. 47146 / *C 63
High-speed digital computers and computing service for government and government contractors / RCGPa Ms(120) Me(1940) Dc
- U.S. Naval Weapons Laboratory, Computation and Analysis Lab., Dahlgren, Va. / North 3-2511 / *C 64
Mathematical analysis and research, programming, engineering, computing and data processing services for government and government contractors only; operate NORC and IBM 7030 (STRETCH) systems, Universal Data Transcriber and a variety of auxiliary equipment / RCPGa Ms(350) Me(1942) Dc
- U.S. Navy, Aviation Supply Office, Data Processing Div., 700 Robbins Ave., Philadelphia 11, Pa. / 215-RA 8-1212, Ext. 388 / *C 64
Two IBM 1410's, five IBM 1401's, one 1405, Auto-din communications network and EAM equipment. Now converting to one Univac 490 Real Time System with Burroughs 283 Rephrasal Systems / (Inventory Control) a Ms(250) Me(1941) Dc
- U.S. Science Corp., 5221 W. 102nd St., Los Angeles 45, Calif. / SP 6-0455 / *C 63
Air data, aircraft landing computers; computer test equipment, special timers / RMa Ms(215) Me(1952) DAIC
- United Transformer Corp., 150 Varick St., New York, N.Y. 10013 / 212-AL 5-3500 / *C 64
Transformers, electric wave filters, inductors, magnetic amplifiers (iron core inductance devices) / Ma ?s ?e Ic
- UNIVAC Div. of Sperry Rand Corp., 1290 Ave. of Americas, New York, N.Y. 10019 / 212-956-2121 / *C 64
Digital electronic computing systems, data processing services / RMSa Ls Le Dic
- 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 / RMSa Ms(150) Se(1957) Dic
- 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 / RMa Ls(5300) Me(1947) DIC
- URS Corp., 1811 Trousdale Drive, Burlingame, Calif. / DI4-7625 / *C 64
Analysis, design and programming of automatic data processing systems for administrative, management support, command and control, and other information processing operations and functions / RCPa Ms(125) Me(1951) DAIC
- V
- Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif. / Davis 3-6160 / *C 63
Power supply modules / MSa Ms(108) Se(1954) Ic
- Vector Electronic Co., Inc., 1100 Flower St., Glendale, Calif. 91201 / 213-245-8971 / *C 64
Pre-programming, patchboards, patch cords, plug-in cards, breadboard kits / Ma Ms(85) Me(1947) Ic
- Veeder-Root Inc., 70 Sargeant St., Hartford, Conn. 06102 / 203-527-7201 / *C 64
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 / MSa Ls(3000) Le(1928) ISc
- Vernistat Div., Perkin-Elmer Corp. -- name changed to Perkin-Elmer Corp., Electronic Products Div., which see
- Vernitron Corp., Executive Offices & Farmingdale Div., 50 Gazza Blvd., Farmingdale, L.I., N.Y.; Torrance Div., 1742 S. Crenshaw Blvd., Torrance, Calif.; United Scientific Labs., 37-15 36th Ave., Long Island City, N.Y. / 516 MI 4-5002 / *C 64
Synchros, resolvers, digital encoders and servo motors amplifier / RMSCa Ls(500) Se(1959) ISc
- Victor Comptometer Corp. Business Machines Div., 3900 N. Rockwell St., Chicago 18, Ill. / 312-KE9-8210 / *C 64
Digit-Matic solenoid operated calculators, listers, accumulators; Electrowriter System handwritten communications; adding machines and calculators, comptometer calculators / MSa Ls(3200) Le(1889) DIC
- Viewlex Inc., Holbrook, N.Y. / 516-LT9-6600 / *C 64
Projection optics, 35mm strip film, etc. / RMSCa Ms(200) Me(1946) Ic
- Virginia Electronics Co., Inc., River Rd. E & B and O Railroad, Washington, D.C. 20016 / 301-654-6690 / *C 64
Communication control systems, intercommunication systems, circuit programming systems (patch boards), etc. / RMa Ms(70) Me(1951) ICc
- Vitramon, Inc., P.O. Box 544, Bridgeport 1, Conn. / Amherst 8-6261 / *C 63
"VY" solid state porcelain capacitors, "VK" micro-miniature ceramic capacitors; "VG" switching modules; mechanically actuated dry circuit switches / Ma Ms(450) Me(1948) Ic
- W
- The Walkirt Co., 10321 S. La Cienega Blvd., Los Angeles 45, Calif. / 213-SP6-0323 / *C 64
Plug-in pulse circuit packages; complete counters, multivibrators, amplifiers, gates, triggers, pulse generators, etc. / Ma Ms(50-100) Me(1948) Ic
- Wang Laboratories, Inc., 836 North St., Tewksbury, Mass. / 617-851-7311 / *C 64
A/D conversion systems (voltage to digital and shaft encoder types), electronic counters (universal, preset, bidirectional), data acquisition and reduction systems, block tape readers / RMa Ms(55) Me(1951) Ic
- Ward Leonard Electric Co., Mt. Vernon, N.Y. / - / *C 64
Electronic and electric control components: resistors, relays, rheostats, contractors, etc. / Ma Ls(over 500) Le(1892) Ic
- Warner Electric Brake & Clutch Co., Beloit, Wisc. 53512 / 608-DU 9-2211 / *C 64
Electric clutches, brakes and controls / Ma Ls(600) Le(1927) Ic
- Wayne Kerr Corp., 1633 Race St., Philadelphia 3, Pa. / - / *C 64
Transfer function computers / ?a ?s ?e ISc
- Weber Showcase and Fixture Co., Inc., 1340 Monroe Ave., N.W., Grand Rapids, Mich. / 361-7341 / *C 64
Infinite access flooring / Ma Ls(1500) Le(1898) Ic

Roster of Organizations

F. S. Webster Co., 1 Amherst St., Cambridge, Mass.
02142 / 617-K17-2300 / *C 64

Inked ribbons for all computers / Ma Ms(225)
Le(1879) Ic

Westgate Laboratory, Inc., 506 S. High St., Yellow
Springs, Ohio / R0ckwell 7-7375 (Dayton, Ohio --
Victor 9-1330) / *C 63

Research, development, prototype, and small lot
production in electronics, physics, optics and
photography; X-Y plotters and vehicle position
displays, simulators and missile guidance equip-
ment, controls, industrial instrumentation, can
leak testers, eye movement cameras, air traffic
control instrumentation / RMSa Ms(55) Se(1956)
DICc

Westinghouse Electric Corp., Pittsburgh 35, Pa. /
EX 1-2900 / *C 63

Complete line of industrial computer systems.
Digital: Prodac industrial computers for all
industrial processes and electric utility gen-
eration and dispatching applications. Analog:
economic dispatch computer for dispatching power
on electric utility systems / RMSCa Ls(125,000)
Le(prior to 1900) DAC

Westinghouse Electric Corp., Electronic Tube Div.,
Box 294, Elmire, N.Y. / RE 9-3611 / *C 63

Receiving tubes: image, storage, multiplier
phototubes; special purpose tubes; military and
industrial cathode ray tubes / RMSa Ls(2500)
Le(before 1930) Ic

WESTON HYDRAULICS, LTD., 7500 Tyrone Ave., Van Nuys,
Calif. / 213-ST 1-4000 / *C 64
Analog digital servomechanism components and
systems / Ma Ls(550) Me(1945) Sc

Weston Instruments & Electronics, 614 Frelinghuysen
Ave., Newark, N.J. 07114 / 201-243-4700 / *C 64
Instruments and components; indicating, display
and controlling instruments; product resolvers,
input-output devices, multipliers, calibrators,
relays, and resistors / Ma Ls(2000) Le(1888)
Ic

Westronics, Inc., 3605 McCart St., P.O. Box 11250,
Berry St. Sta., Ft. Worth 10, Tex. / 817-WA3-8211 /
*C 64

Manufacturer of strip chart recorders / RMSa

Ms(60) Me(1946) Ic

WHEELDEX, INC., 1000 No. Division St., Peekskill,
N.Y. / 914-737-6800 / *C 64
Peripheral equipment and supplies. Pinfeed
cards plain or printed, single or multiple-up
strips. Manual and motorized finding and fil-
ing equipment for all size records, tape-reels,
etc. Custom designed equipment / Ma Ms Le Ic

Wheelock Signals, Inc., Long Branch, N.J. / - / *C 64
Glass Reed Relays / ?a ?s ?e Ic
Whiteford Laboratory, 258 Broad St., Lynn, Mass. /
898-9119 / *C 63

Paper tape winding equipment; paper tape re-
corders / RMa Ss(15) Me(1947) Ic
Whitton Mfg. Co., Route 6, Farmington, Conn. / 677-
2607 / *C 63

Design and manufacture of precision revolving
mechanisms including memory drums of all sizes,
coated and complete with motor drive, but not
reading and writing heads / Ma Ms(50) Me(1946)
Ic

Whittaker Corp. (formerly Telecomputing Corp.) 9229
Sunset Blvd., Los Angeles 69, Calif. 90069 / 213-
CR 4-0771 / *C 64

Data analysis and processing equipment, spe-
cial purpose computers, data reduction analysis
and counselling / RMSCa Ls(2500) Me(1942)
DAICc

Wiancko Engineering, Div. Tamar Electronics, Inc.,
255 N. Halstead Ave., Pasadena, Calif. / 213-EL5-
7186 / *C 64

Telemetry, control and data acquisition sys-
tems; pressure, acceleration and force trans-
ducers; test and calibration instruments / RMa
Ms(240) Me(1946) Ic

John Wiley & Sons, Inc., 605 3rd Ave., New York 16,
N.Y. / TN 7-9800 / *C 64

Technical books / MSA Ms(500) Le(1807) Ic
G. C. Wilson & Co., 1035 25th St., Huntington, W.
Va. 25703 / 304-523-5149 / *C 64

Timing controls and time delay relays / Ma
Ss(10) Me(1945) Cc
Winchester Electronics/Division of Litton Industries,
19 Willard Rd., Norwalk, Conn. / 203-847-7231 /
*C 64

Electronic connectors, accessories, terminals
/ RMSCa Ms(500) Me(1940) Ic
Winsco Instruments & Controls Co., 1533 26th St.,
Santa Monica, Calif. / 213-451-1507 / *C 64
Solid-state signal conditioning devices/sys-
tems / RMa Ms(50) Se(1961) Ic
Wittek Products Co., 14750 Keswick St., Van Nuys,
Calif. / 213-ST 0-8265 / *C 64
Breadboard kits for electronic designers work-
ing on research and development in semiconduct-
circuitry, computers, and data processing sys-
tems / Ma Ss(4) Me(1946) Ic

Wolf Research & Development Corp., P.O. Box 36,
West Concord, Mass. / 617-EM9-2111, 617-M16-8192 /
*C 64

Digital computer consulting, programming, and
operation. Bendix G-150 with trace generator,
WVI computer / RC(general computer services)a
Ms(200) Se(1954) DIC
Wright Engineering Co., Inc., 180 E. California
Blvd., Pasadena, Calif. / 213-MU 1-2651 / *C 64
Shaft encoders; magnetic digital logic compo-
nents and systems; buffers and storage systems;
aerospace timers; system and lab power supplies;
magnetic tape transports / Sa Ss(10) Me(1950)
DAIC

Wright Line, a div. of Barry Wright Corp., 160 Gold
Star Blvd., Worcester 6, Mass. / 617-791-0933 /
*C 64

Specialists in data handling and filing systems.
Data processing accessory equipment, computer
department accessories, check handling equip-
ment / RMSCa Ms(275) Me(1934) Ic
Write Inc., 420 Lexington Ave., New York 17, N.Y. /
212-LE2-6171/2 / *C 64
Data processing ribbons / Ma Ms(50) Le(1923)
Ic

Z

Zator Co., 140 1/2 Mount Auburn St., Cambridge, Mass.
02138 / 617-TR 6-6776 / *C 64

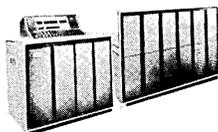
Consulting and service in information retrieval
systems / SCA Ss(3) Me(1947) Ic

Zoron, Inc., 4853 N. Ravenswood, Chicago 40, Ill. /
312-728-3473 / *C 64

Connectors and switches / Ma Ss(10) Se(1960)
Ic

COMPUTER OUTPUT FOR GREATER IMPACT AND ECONOMY THROUGH PHOTOTYPESETTING

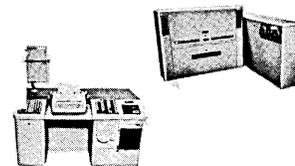
264 CHARACTERS
TYPOGRAPHIC QUALITY
AT HIGH-SPEED



900 SERIES
COMPUTER PHOTOTYPESSETTER

High-speed computer printout is produced with the typographic quality, spacing and flexibility of conventional printing. Upper and lower case characters, proportionately spaced, increases character density. Resulting economies are less paper, less "look-up" time and less reading time. Use of italics, bold and light faces, open space or tight space, mathematical or chemical symbols—all mean improved readability, greater impact, better understanding, better appearance. The output, photographic film or paper, is immediately available for reproduction and distribution.

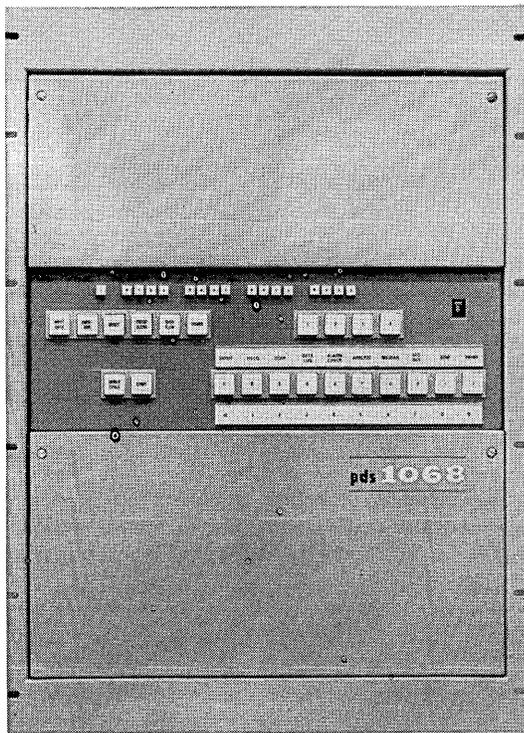
17,280 CHARACTERS
TYPOGRAPHIC QUALITY WITH
FLEXIBILITY-VERSATILITY



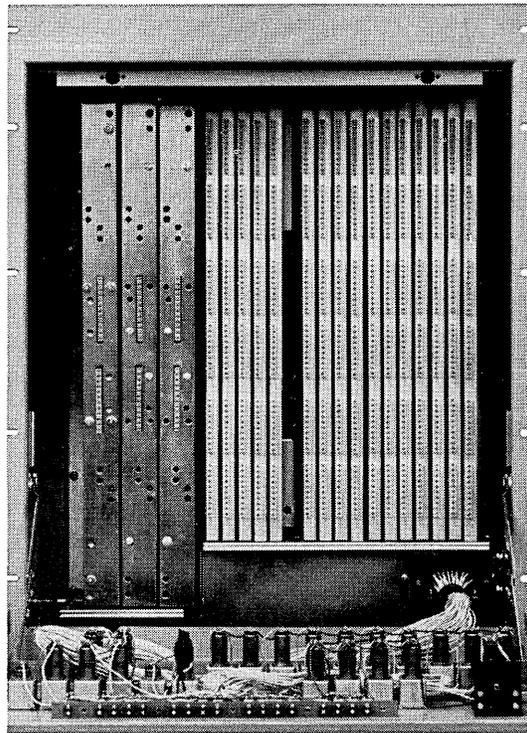
500 SERIES
COMPUTER PHOTOTYPESSETTER

PHOTON . . . newsmaker in phototypesetting

355 MIDDLESEX AVENUE, WILMINGTON, MASSACHUSETTS



This is a full scale, general purpose systems computer. It costs less than \$15,000

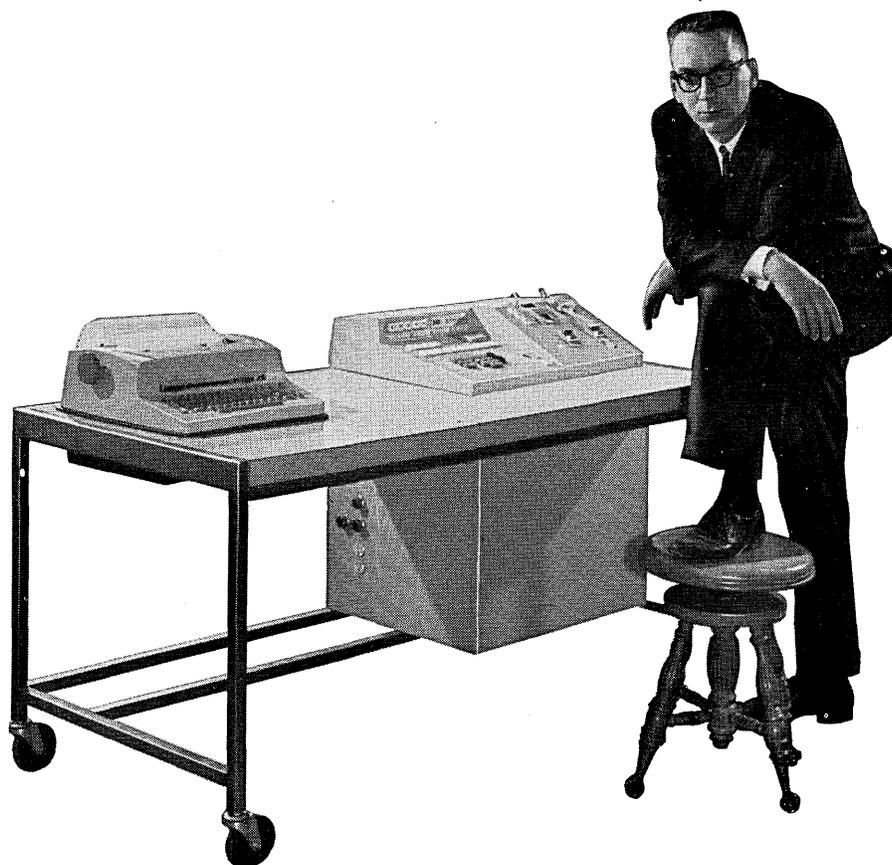


If you couldn't afford a systems computer before, you can now. ■ The PDS 1068 is designed for standard 19" rack mounting. It features multiple input/output channels (serial and parallel), 10 special keys for control or numeric input, and variable field length arithmetic. A decimal machine, it has a hardware index register, numeric register display, 4 to 8 sense switches, remote control capabilities and over 40 powerful machine commands. The 1068 requires no air conditioning or special installation. It operates on standard 115 VAC current. Its solid state circuitry is worst-case designed using conservative end of life tolerances. For details Phone (714) 547-4135 or write:



Pacific Data Systems, Inc.
 a subsidiary of Electronic Associates, Inc.
 1058 East First Street • Santa Ana, California

THEY LAUGHED WHEN I SAT DOWN TO PLAY



But 10 minutes later I was solving complex problems on the PDS 1020. Here is a full scale digital computer designed solely for the engineer. No machine language to learn, no special training required. (Unless you insist on using the built-in command list.) The uniquely designed PDS interpreter keyboard places general purpose computer power at your fingertips.

More powerful than any comparable general purpose computer, the PDS

1020 features over 40 machine language commands, hardware index register, numeric display of all pertinent registers, all decimal arithmetic, built-in multiple word length control, tape punch and reader and 15 character/sec. typewriter output. Priced at only \$21,500, no department can afford to be without one. We'll prove it. Ask for a demonstration or send

pds 1020
the engineer's computer

for the Engineer's Guide to the PDS 1020... it's the Engineer's computer.

Pacific Data Systems, Inc.

a subsidiary of Electronic Associates, Inc. / 1058 East First Street • Santa Ana, California • Phone: Area Code 714 - 547-4135

Circle No. 11 on Readers Service Card

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

(Cumulative, information as of May 15, 1964)

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 1963. This is the eighth 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.

Questionnaire. Many of the entries in this roster have been derived from answers to questionnaires which we sent out to over 1600 suppliers, most of them in the computer field. 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, 1964

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 1963 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 \$15.00
() Please give us 50 words. Enclosed is \$15.00

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 \$20.00.

() Please FLAG our entry as described. Enclosed is \$20.00

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 _____ C9
— Arithmetical (for Digital Computers) _____ C10
— Computer, Packaged _____ C11
— Logical (for Digital Computers) _____ C11
Communications Systems (Computer Types) _____ C22

Computers (SEE ALSO specific types)	___ C22A	<u>M:</u> Memory Systems	___ M2
Computers, Analog	___ C23	Multipliers	___ M3
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 Machines	___ P16
- Magnetic Tape to Paper Tape	___ C46	<u>R:</u> Readers	___ R1
- Magnetic Tape to Magnetic Tape	___ C46A	- Character	___ R2
- Paper Tape to Card	___ C47	- Film	___ R2.5
- Paper Tape to Magnetic Tape	___ C48	- Magnetic Card	___ R3
Cores	___ C50	- Magnetic Tape	___ R4
- Ferrite	___ C51	- Paper Tape	___ R6
- Magnetic	___ C52	- Photoelectric	___ R7
Counters	___ C53	- Punch Card	___ R8
- Electronic	___ C54	Recording Papers	___ R9
- Frequency	___ C55	Registers, Shift	___ R11
- Mechanical	___ C56	Relays (Computer Types)	___ R12
Courses by Mail (Computer Field)	___ C58	Research	___ R12A
<u>D:</u> Data Processing Machinery	___ D1	Resolvers	___ R14
(SEE ALSO specific types)	___ D1	- Coordinate Transform	___ R15
Data Recording	___ D2	- Product	___ R16
Equipment	___ D2	- Sine-Cosine	___ R17
Data Reduction Equipment	___ D2A	Robots	___ R18
Delay Lines (Computer Types)	___ D3	Ribbons, Data Processing	___ R18A
Desk Calculators	___ D4	<u>S:</u> Scanners	___ S1
Differential Analyzers	___ D6	Servomechanisms	___ S2A
Digital Computers (SEE Computers, Digital)	___ D11	Simulators	___ S3
Discs, Magnetic	___ D12	Storage Systems	___ S4
Drums, Magnetic	___ D12	- Magnetic	___ S5
<u>E:</u> Economic Research	___ E0	Switches	___ S6
Education (SEE ALSO Courses)	___ E1	- Stepping	___ S7
<u>F:</u> Facsimile Equipment	___ F1	Synchros	___ S8
Floors	___ F5	Systems Engineering	___ S9
Forms, Continuous	___ F5A	<u>T:</u> Tape Handlers	___ T2
Forms Handling Equipment	___ F7	Tape, Magnetic	___ T3
<u>G:</u> Generators, Function	___ G1	- Filing Systems	___ T3A
- Electronic	___ G2	- Readers	___ T4
- Mechanical	___ G3	- Recorders	___ T5
<u>H:</u> Heads, Magnetic	___ H1	Reels	___ T5A
- Reading	___ H2	Tape, Paper	___ T6
- Recording	___ H3	- Filing Systems	___ T7
<u>I:</u> Information Retrieval Devices	___ I2	- Punches	___ T8
Information Engineering	___ I2A	- Readers	___ T9
Integrators	___ I4	Telemetry Systems	___ T10
- Electronic	___ I5	Thin-films, Magnetic	___ T11.2
- Mechanical	___ I6	Timing Devices	___ T11.3
Inventory Systems	___ I7	Transformers	___ T12
<u>K:</u> Keyboards	___ K1	- Pulse	___ T13
<u>L:</u> Lights, Indicator	___ L1	Tape Translating Equipment	___ T17
		Typewriters, Electric, Controlled	___ T18
		<u>V:</u> Visual Output Devices	___ V1

Products and Services

ROSTER

A1. ADDING MACHINES

Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden Adding Machine / DESCR: ten-key adding machine with visual check dials. "Natural Way" keyboard, automatic credit balance, automatic step-over of multiplicand, and other features for rapid multiplication / USE: general application / - / A1
 Monroe Calculating Machine Co., Div. Litton Industries

A3. AMPLIFIERS

American Electronic Controls Co. -- see C34
 Amplifier Corp. of America, 398 Broadway, New York 13, N.Y. / amplifiers / DESCR: transistorized audio amplifiers to order; also constant output amplifiers by automatic volume control / - / - / A3
 AmTron Inc. -- see C32
 Argonaut Associates, Inc.
 Bryant Computer Products -- see C10
 Burlingame Associates, Ltd.
 Burr-Brown Research Corp., 425 So. Flumer, Box 6444, Tucson, Ariz. 85716 / amplifiers / DESCR: DC operational amplifiers with low drift (to $1\mu\text{V}/\text{C}$); broad bandwidth (to 20Mcps); high gain (to 20,000,000); high output (to ± 50 volts at 20ma and ± 10 volts at 500 ma) / USE: analog, computation, instrumentation, and signal conditioning / \$55 to \$295 / A3
 Cadre Industries Corp.
 California Instruments Corp., 3511 Midway Dr., San Diego, Calif. 92110 / Model 3300 wideband DC amplifier / DESCR: 1 db to 20 KC; .1% accuracy, 100 megohms input impedance, twelve amplifiers mount in a standard 19" rack $3\frac{1}{2}$ " high / USE: amplifying low level signals to within usable limits ± 10 volts @ ± 100 milliamperes / \$550 to \$750 / A3
 Cohu Electronics, Inc., Kin Tel Div., P.O. Box 623, San Diego, Calif. 92112 / amplifiers / DESCR: chopper stabilized DC amplifiers, with and without plug-in attenuators, wideband (DC to beyond 200 Kc) and differential with 180 db, DC common mode voltage / USE: accurate amplification of low-level signals / \$530 to \$995 / A3
 Controlmag Laboratories
 Corning Electronics, Corning Glass Works
 Embree Electronics Corp., 10 N. Main St., West Hartford, Conn. / operational DC amplifiers / DESCR: ± 100 Vdc 5-15ma output, stabilized and unstabilized and case and card mounted / USE: simulation, computation and control / \$20 to \$200 / A3
 Epsco, Inc.
 Fairchild Controls, Div. of Fairchild Camera and Instrument Corp., 225 Park Ave., Hicksville, L.I., N.Y. / DC Amplifiers / DESCR: adjustable and fixed gain differential DC linear amplifiers, models FA1 and FA2. Operate from 28vdc with gains from 20 to 1000. Linearity $\pm 0.05\%$ or better / USE: with transducers such as strain gage solid state types or other low amplification requirements / \$600 to \$700 / A3
 General Computers, Inc., 5990 W. Pico Blvd., Los Angeles, Calif., 90035 / operational amplifiers / DESCR: high performance operational amplifiers for custom systems, packaged in plug-in metal cases for mechanical protection and electrical shielding / USE: amplification, summation, integration, or any combination thereof / \$50 to \$135 / A3
 General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div., Andrews Rd., Hicksville, N.Y. 11802 / amplifiers / DESCR: IF, R.F., pulse, video, distribution, isolation, limiting, modulator, narrow band, wideband, and general purpose / USE: variety of applications / \$1000 to \$15,000 / A3
 The Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex. / Amplifiers, AM/FM / DESCR: noise levels down to .005 microvolt rms; voltage gains to 10^6 ; pass bands from .0004 to 20 cps; dynamic range to 75 db / USE: amplify ultra-low-noise surveillance signals / \$1,200 to \$2,400 / A3
 Gulton Industries, Inc.

Hagan Controls Corp. -- see A4, C32, D1, S1
 Hewlett-Packard Co.
 Mace Corp., 900 N.E. 13th St., Ft. Lauderdale, Fla. / Ultramags / DESCR: harmonic magnetic amplifiers in solid state circuitry for 50, 60 and 400 cycle operation. Inherent low null output and very high gain / USE: null detectors, differentiators, integrators signal mixing / \$69.50 to \$139.50 / A3
 F. B. MacLaren & Co., Inc., 15 Stepar Pl., Huntington Station, L.I., N.Y. / 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 AG or DC error signals / \$100 to \$350 / A3
 Melcor Electronics Corp., 110 Central Ave., Farmingdale, N.Y. / amplifiers / DESCR: development and production of amplifiers and power supplies for electromechanical and electronic analog computers. Servo, summing, isolation, AGC, quadrature rejection, resolver driver, operational, differential / - / \$50 to \$500 / A3
 Midwestern Instruments, Inc.
 Neff Instrument Corp., 1088 E. Hamilton Rd., Duarte, Calif. / Type 101B / DESCR: narrow band guarded differential DC amplifier designed to isolate, amplify and filter low-level signals over frequency range from DC to 100 cps. / USE: to amplify low level signals / \$750 to \$900 / A3
 Neff Instrument Corp., *a / Type 106 / DESCR: wideband single-ended DC amplifier designed to amplify low-level signals to sufficient voltage and current levels to drive galvanometers / USE: quick look devices from magnetic tape recordings / \$300 to \$400 / A3
 Neff Instrument Corp., *a / Type 107 / DESCR: wideband guarded differential DC amplifier designed to amplify low-level signals over frequency range from DC to 100,000 cps. / USE: data acquisition and input commutation / \$550 to \$650 / A3
 Neff Instrument Corp. *a / Type 108A / DESCR: narrowband, guarded differential DC amplifier designed to isolate, amplify and filter low-level signals over frequency range from DC to 100 cps. / USE: to amplify low level signals / \$350 to \$450 / A3
 Non-Linear Systems, Inc., P.O. Box 728, Del Mar, Calif. / amplifiers / DESCR: precision DC amplifiers with gains from 1 to 1000, accuracies to 0.01%, frequency ranges from DC up to 10 KC / USE: precision application for analog computers and data acquisition systems / \$900 to \$1550 / A3
 Pastariza Electronics, Inc., 285 Columbus Ave., Boston 10, Mass. / personal amplifier manifold / DESCR: five plug-in, differential amplifiers with rechargeable batteries in a portable manifold. Patch board permits interconnection of amplifiers and input and feedback networks / USE: small analog computer and filter design / \$320 to \$545 / A3
 Polyphase Instrument Co.
 Samborn Company
 Sperry Farragut Co., Div. of Sperry Rand Corp.
 Stereotronics, 53 Everett St., Waltham, Mass. 02154 / ultra low noise amplifier line / DESCR: a series of solid state amplifiers differing in center frequency and bandwidth. Typical is ALN B0-5 with bandwidth of 0.3cps to 300,000cps with rise time of 200 nanoseconds and less than 10% overshoot. Noise figure guaranteed less than 1 db / USE: oscilloscope preamp, Dicke detector amp, phonopreamp / \$99.50 to \$149.50 / A3
 Systems Engineering Laboratories, Inc., P.O. Box 9148, 4066 N.E. Fifth Ave., Fort Lauderdale, Fla. 33310 / amplifiers / DESCR: solid state operational and channel amplifiers / - / - / A3
 M. Ten Bosch, Inc.
 Vernitron Corp., 50 Gazza Blvd., Farmingdale, L.I., N.Y. / amplifiers (magnetic and electronic) / DESCR: to boost signal and drive servo motors / USE: in servo mechanisms / \$125 to \$300 / A3

A4. AMPLIFIERS, MAGNETIC

Acromag, Inc., 15360 Telegraph Rd., Detroit, Mich. 48239 / low level d.c. preamplifiers / - / USE: to amplify low level d.c. signals from strain gages, thermocouples / \$84 to \$139 / A4
 Airpax Electronics, Inc.
 Control Data Corp., Control Systems Div., 4455 Miramar Rd., La Jolla, Calif. / MAGSENSE[®] instrumentation / DESCR: sensitive and rugged current sensors / USE: relays, comparators and amplifiers / \$60 to \$250 / A4
 Electronic Transformer Corp., 29 Park Place, Passaic, N.J. 07056 / amplifiers, magnetic / DESCR: custom built to military or commercial applications / - / - / A4
 Gulton Industries, Inc.
 Hagan Controls Corp., 250 Mt. Lebanon Blvd., Box 11606, Pittsburgh, Pa. 15228 / PowMag / DESCR: comprehensive magnetic amplifier devices for non-interacting, adaptive control. Permits digital computer tie-in. / USE: steel, utility, marine, process / price variable to suit system application / A4
 Hammond Manufacturing Co., Ltd., Edinburg Rd. & Speedvale Ave., Guelph, Ontario, Canada / magnetic amplifiers / DESCR: self saturating saturable reactors, single and three phase up to 300 KVA / USE: for control circuitry / A4
 Librascope Group, General Precision, Inc., 808 Western Ave., Glendale 1, Calif.
 Mace Corp. -- see A3
 Torotel, Inc., 5512 E. 110, Kansas City, Mo. 64137 / Torotel magnetic amplifier Type 02 / DESCR: 9.5 oz. D.C. amplifier operating from 115V 400 cps source with linear, gain stability and nu. characteristics / USE: analog computer and instrumentation / by quotation only / A4
 United Transformer Corp., 150 Varick St., New York, N.Y. 10013 / magnetic amplifiers / DESCR: hermetically sealed components from stock or custom-built to customer's specifications / USE: amplification of signals in servo-mechanism / depending on design / A4
 Vernitron Corp. -- see A3

B1. BOARDS, PLOTTING

Accurate Electronics Corp., 169 S. Abbe Rd., P.O. Box 935A, Elyria, Ohio 44036 / plug boards; plotting boards / DESCR: sizes from 6"x6" to 48"x48", segmented or solid, marked, color-coded to customer design or designed to fit requirements / USE: for computer programming / \$10 to \$850 / B1
 B and F Instruments Inc.
 Canadian Aviation Electronics Ltd. -- see C22A
 Gerber Scientific Instrument Co.
 Harman Kardon Inc., Data Systems Div.
 Keystone Electronics Corp., 49 Bleeker St., New York, N.Y. 10012 / manufacture electronic components / DESCR: terminals, battery holders, terminal boards, bushings - electronic hardware, breadboards / USE: production runs and R & D work / B1

B2. BOARDS, PLUG

AMP Inc., Eisenhower Blvd., Harrisburg, Pa. / pinboards / DESCR: rapid, simple programming method / USE: for matrix and other programming applications / - / B2
 Corning Glass Works, Bradford, Pa. / standard and custom-ordered Photoceram matrix boards / DESCR: printed circuit boards utilizing Photoceram glass-ceramic as substrate; made to custom design. Standard boards have universal ring-and-dot pattern of runs, pads and through-plated holes / USE: prototype design of circuitry / standard board about \$10 / B2
 Harman Kardon, Inc., Data Systems Div., 55 Ames Ct., Plainville, N.Y. / Facilogic - breadboard kit / DESCR: facilogic provides the ultimate in convenient systems interwiring, construction of specialized test equipment and training of personnel / USE: training of students or translation of prototypes / \$20 to \$2000 / B2
 Keystone Electronics Corp. -- see B1
 Micro Measurements Corp., 2412 Northwood, Melrose Pk., Ill. / P.C. plug in boards / DESCR: manufacture and assemble stock or custom P.C. boards including decodes, decoders, gates, power supplies, drivers, etc. / USE:

sub-assemblies or components / \$7.50 and up / B2
 Trompeter Electronics Inc., 7238 Eton Ave., Canoga Park, Calif. / coaxial patching systems / DESCR: coax and twinax cable patching systems used for programming data, video, R.F. and TV signals / - / \$200 to \$1000 / B2
 Vector Electronic Co., Inc., 1100 Flower St., Glendale, Calif. 91201 / "PLUGBOARD" plug-in circuit cards / DESCR: standard size pre-punched circuit cards with contacts installed. Available in Mil spec. epoxy paper and glass. Also copper clad. Receptacles to match / USE: test circuits, P.C. prototypes, short runs, and modular plug-ins / \$1.06 to \$6.65 / B2

B6. BREADBOARD KITS

Gulton Industries, Inc.
 Harman Kardon, Inc., Data Systems Div. -- see B2
 Keystone Electronics Corp. -- see B1
 Micro Measurements Corp. -- see B2
 Packard Bell Computer, a div. of Packard Bell Electronics
 Precision Metal Prods
 Techniques Inc., 40 Jay St., Englewood, N.J. / breadboard kits / DESCR: printed circuit boards can be made from start to finish with these complete, easy to use kits / - / \$4.75 to \$29.95 / B6
 Vector Electronic Co., Inc., 1100 Flower St., Glendale, Calif. 91201 / breadboard kits / DESCR: four kits consisting of pre-punched chassis decks, supporting frames, solderless and solderable terminals, tube and transistor sockets, grid paper and all required mounting hardware / USE: quick solderless circuit setups / \$6.25 to \$19.50 / B6
 Wittek Products Co., 14750 Keswick St., Van Nuys, Calif. / electronic breadboard kits / DESCR: prototype chassis with highly interchangeable hole patterns with extreme accessibility to electronic components mounted on this system / USE: by electronic designers for prototype research and development work on semiconductor circuitry and computer and data processing systems / \$10 to \$15 per unit plus accessories / B6

C3. CAMERAS

Cohu Electronics, Inc., Kin Tel Div., P. O. Box 623, San Diego, Calif. 92112 / TV cameras / DESCR: include miniaturized, environment-resistant, high-resolution and self-contained vidicon cameras. Modular construction provides choice of scan patterns. Complete line of accessories / USE: data transmission / \$1835 to \$2090 / C3
 Consolidated Systems Corp.
 Diamond Electronics, Diamond Power Specialty Corp.
 Eastman Kodak Co.
 Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Compos-0-Line Models S-R, J-R / DESCR: high-speed camera for repetitive listing composition. Photographs reusable data from cards, produces positive or reversed negatives or reproduction proofs ready for platemaking / USE: publishing lists, directories, manuals, etc. / - / C3
 Hewlett-Packard Co.

C3A. CAMERAS, DATA RECORDING

Beckman & Whitley, Inc., 993 E. San Carlos Ave., San Carlos, Calif. / photo optical systems / DESCR: optical systems for ultra high speed (10" bits per second) data recording and reading / USE: data recording and retrieval / individually priced / C3A
 Burroughs Corp., Ann Arbor Lab. -- see V1
 Canadian Aviation Electronics Ltd. -- see C22A
 Chadwick-Helmuth Co., 111 E. Railroad Ave., Monrovia, Calif. 91016 / pulse camera, model 370 / DESCR: true stop-start operation to fast speed of 30 fps, loads with 100 feet (4000 frames) 16mm roll film / USE: interlock photo data with CRO sweeps, with CCTV rasters, or with computer readout / \$1850 / C3A
 Giannini Scientific Corp., 185 Dixon Ave., Amityville, N.Y. / light research multidata(r) instrumentation recording cameras / DESCR: remotely controlled cine and pulsed cameras. Up to 30 individual pictures

Products and Services

- per second. Down time less than 20 seconds. Records scope output of computers / USE: photographic recording of hard copy on remote command / \$1795 up / C3A
Straza Industries, Electronics Div. — see D2
- C5. CARDS (SEE ALSO PUNCH CARDS)**
Computer Logic Corp.
E-Z Sort Systems, Ltd.
- C6. CARDS, PUNCH**
American Business Systems, Inc., 2929 "B" St., Philadelphia 34, Pa. / CARD-SETS / DESCR: data-processing card or cards combined with one-time carbon and bond parts into a set / USE: source information for feed-in to tabulating machines / - / C6
Beemak Plastics, 7424 Santa Monica Blvd., Los Angeles, Calif. 90046 / tab card holder / DESCR: plastic holder for punched cards allows storage of pre-punched cards with products in bins / USE: as merchandise is picked, cards are pulled and kept with merchandise until complete order is assembled — order then goes to shipping department and cards to tab department / on request / C6
Beemak Plastics, *a / tab card holder with magnets / DESCR: can be hung or attached to any metal surface such as tab machine, filing cabinet or metal desk; easy accessibility to operators / - / on request / C6
W. H. Brady Co.
Essex Systems Co., Inc., 9 E. 38th St., New York, N.Y. / Essex 4-Up Tab-Xerox Cards / DESCR: long grain tab card 4-up on strip to reproduce other multilane card via Xerox, then process through keypunch / USE: photo process via Xerox, then normal keypunch / \$18 to \$65 per m / C6
E-Z Sort Systems, Ltd.
IBM, Data Processing Div.
International Computers and Tabulators Ltd.
The Standard Register Co., 626 Albany St., Dayton, Ohio 45401 / punch cards / DESCR: continuous form punched cards, pre-punched, pre-printed consecutive number — IBM or RemRand; multi-copy with paper copies if required; also in unit set form / USE: checks, source data, etc. / varies / C6
- C7. CARDS, MAGNETIC**
IBM, Data Processing Div.
- C9. CIRCUITS, ARITHMETICAL (FOR DIGITAL COMPUTERS)**
Abacus Inc.
AMP Inc., Eisenhower Blvd., Harrisburg, Pa. / AMP-MAD / DESCR: digital circuit devices made with multiaperture type ferrite cores and wire / USE: decimal counters, digital counters, digital comparators, in word generation, sequential selection and other logic functions / - / C9
Canadian Aviation Electronics Ltd. — see C22A
Digital Equipment Corp., 146 Main St., Maynard, Mass. / digital circuit modules / DESCR: over 350 different types of solid state digital circuit modules, in 3 compatible frequencies (500KC, 5MC & 10MC); stock items include flip-flops, pulse amplifiers, oscillators, and other logic circuits / USE: specially packaged for systems design, test, and construction applications / \$22 to \$675 / C9
Harman Kardon, Inc., Data Systems Div., 55 Ames Ct., Plainview, N.Y. / digital logic and modules / DESCR: digital logic modules, from DC to 40 MC, -25°C to 125°C. Four different series available to suit any special need / USE: in data processors or digital systems / \$5 to \$60 / C9
IBM, Federal Systems Div.
Norden Div. of United Aircraft Corp., Helen St., Norwalk, Conn. / silicon integral circuits / DESCR: sense amps, differential amps, servo amps, gates, custom analog and digital circuits, all fabricated as monolithic integral circuits; TO-5 or flat package / - / \$30 to \$140 / C9
The Walkirt Co., 10321 S. La Cienega Blvd., Los Angeles 45, Calif. / digital modules / DESCR: integrates circuit modules and discrete component plug-ins: decades, counting chains, plus custom packaging, all types digital circuitry / - / C9
- C10. CIRCUITS, COMPUTER, PACKAGED**
Abacus Inc.
Accurate Electronics Corp., 169 S. Abbe Rd., P. O. Box 935A, Elyria, Ohio 44036 / packaged computer circuits / DESCR: plug-in card type circuits, open or potted, to fit standard cages and connectors, all circuit types to customer specs. / USE: as computer building blocks / \$12 to \$90 / C10
Bryant Computer Products, 650 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 / USE: building blocks in designing magnetic drum and disc file systems / \$75 to \$750 / C10
Burr-Brown Research Corp.
Cambridge Thermionic Corp., 445 Concord Ave., Cambridge, Mass. 02138 / digital logic modules / DESCR: design, develop, manufacture digital logic modules and digital systems. CAMBION modules are directly usable once logic is designed / USE: for industrial systems, computer and military applications / \$3.15 to \$40 / C10
Canadian Aviation Electronics Ltd. — see C22A
Centralab, the Electronics Div. of Globe-Union Inc., P. O. Box 591, Milwaukee, Wisc. 53201 / PEC® integrated circuits / DESCR: PEC's are miniaturized circuits based upon ceramic substrates; can include resistance, capacitance, inductance, semiconductors / - / 4¢ to \$125 (production quantities) / C10
Continental Connector Corp.
Cornell-Dubilier Electronics, Div. of Federal Pacific Electric Co.
Corning Glass Works, Bradford, Pa. / microcircuits, thin film / DESCR: standard kit containing two-dozen thin film tin oxide resistors on two glazed alumina substrate wafers. Capability includes non-vacuum deposited resistors, vacuum-deposited capacitors, attached discrete devices / USE: for evaluation by designers under their own particular operating conditions / \$17.50 per kit / C10
Defiance Printed Circuit Corp., 144 Commercial St., Malden, Mass. 02148 / custom etched wiring cards / DESCR: complete production facility including design from schematics through assembly and minor testing all types of cards with all normal finishes serving industrial and commercial markets / USE: in electronics assemblies in place of wire / 8¢ to \$100 / C10
Digital Equipment Corp. — see C9
Gulton Industries, Inc.
Hagan Controls Corp. — see A4, C32, D1, S1
Harman Kardon, Inc., Data Systems Div. — see C9
IBM, Federal Systems Div.
Intercontinental Instruments, Inc.
Norden Div. of United Aircraft Corp. — see C9
Precision Metals Prods, 41 Elm St., Stoneham, Mass. / printed circuits / DESCR: etched and plated circuits made from customers artwork or engineers drawings. Any material, all platings / USE: electronic packaging / - / C10
Raytheon Co., Communications and Data Processing Operation
Sparton Corp., 2400 East Ganson St., Jackson, Mich. 49202 / printed circuit designs; printed circuit boards; printed circuit board assemblies / DESCR: ranging from simple to complex design / USE: computers and space vehicles / - / C10
Sprague Electric Co.
Systems Engineering Laboratories, Inc. — see C11
The Walkirt Co. — see C9
- C11. CIRCUITS, LOGICAL (FOR DIGITAL COMPUTERS)**
Abacus Inc.
Accurate Electronics Corp., 169 S. Abbe Rd., P. O. Box 935A, Elyria, Ohio 44036 / logical circuits / DESCR: plug-in or potted modules of all circuit types. To fit standard enclosures and connectors / USE: as computer building blocks / \$20 to \$160 / C11
AMP Inc. — see C9
Bryant Computer Products — see C10
Cambridge Thermionic Corp. — see C10
Canadian Aviation Electronics Ltd. — see C22A
- C & K Components, Inc.
Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. / digital logic modules / DESCR: electronic transistor circuits make up digital system building blocks; operating frequencies DC to 20 MC. Also offered: power supplies, test equipment, and associated hardware / USE: building blocks for digital systems / - / C11
Control Logic, Inc., 3 Strathmore Rd., Natick, Mass. / digital circuits / DESCR: miniaturized welded digital circuits. System components such as A/D converters, D/A converters, digital clocks. Digital systems for industrial control and military use / USE: design, logical certification, construction, and test of digital systems / varied / C11
Dayton Electronic Products Co., 117 E. Helena St., Dayton 4, Ohio / Pordilab, plug in modules / DESCR: Pordilab - computer logic and circuitry training aid plug in digital logic circuits; complete digital logic circuitry transistorized circuitry, case mounted circuitry silicon digital logic circuitry — silicon logic computer circuitry; operating to 10 Mc / - / - / C11
Delco Radio Div., General Motors Corp., 700 E. Firmin St., Kokomo, Ind. / logic circuits / DESCR: plug-in cards or modules; 175 kc., 5 and 10 M.C. switching speeds; complete logic functions from stock — silicon or germanium / USE: military airborne and ground support equipment, industrial controls / \$12 to \$25 per flip-flop / C11
Digital Equipment Corp. — see C9
Electronic Modules Corp., 1949 Greenspring Drive, Timonium, Md. 21093 / digital logic modules / DESCR: potted modules, three families 250kc to 2mc; special functions; adders, counters, registers, decoders, etc.; digital clocks; military and industrial applications; custom miniature packaging / USE: design and production of digital systems / \$4 to \$25 / C11
ESS GEE, Inc., 1 Holland Ave., White Plains, N.Y. / logic cards, modules, special analog circuits, systems / DESCR: complete lines of germanium and silicon assemblies designed for operational accuracy and reliability / USE: automation and instrumentation for process control / \$25 to \$120 / C11
Gulton Industries, Inc.
Harman Kardon, Inc., Data Systems Div. — see C9
IBM, Federal Systems Div.
Librascope Group, General Precision, Inc.
NAVCOR (Navigation Computer Corp.), Valley Forge Ind. Park, Norristown, Pa. / system function modules / DESCR: several complete lines of high reliability MIL-Std digital modules, organized for ease of use and maintenance. 300KC to 2MC rates / USE: constructing special digital systems / \$25 to \$250 / C11
Norden Div. of United Aircraft Corp. — see C9
Opto-Electronic Devices, Inc., subsidiary Sigma Instruments, Inc. — see R12
Philco Corp., Lansdale Div., a subsidiary of Ford Motor Co.
Radiation Inc., Products Div., Melbourne, Fla. 32902 / logic modules / DESCR: complete line of logic modules including: counter shift register, 4 in-put NOR, power inverter, emitter follower, complementary driver, differential and filter (decoupler) / USE: EDP system circuits / - / C11
Redcor Corp.
Sanders Associates, Inc.
Sylvania Electric Products, Inc., Semiconductor Div., 100 Sylvan Rd., Woburn, Mass. / semiconductors / DESCR: research, development and manufacture of diodes, transistors, microwave diodes and integrated circuits / USE: in switching, amplifiers, oscillators and power applications / 25¢ to \$100 / C11
Systems Engineering Laboratories, Inc., P. O. Box 9140, 4066 N.E. Fifth Ave., Fort Lauderdale, Fla. 33310 / SEL 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
Tech Serv Inc.
The Walkirt Co. — see C9
- C22. COMMUNICATIONS SYSTEMS (COMPUTER TYPES)**
Abacus Information Management Co.
- AmTron Inc. — see C32
The Bunker-Ramo Corp.
Cadre Industries Corp.
Collins Radio Co., Information Science Center
Data Trends, Inc., 1259 Route 46, Parsippany, N.J. / MIMO / DESCR: real-time data communication terminal accepts either hand-printer or keyboard entered alpha-numeric input and responds with an alpha-numeric print-out on a matrix strip printer under computer control / USE: inquiry, information retrieval, data dissemination, data collection / \$555 to \$1300 / C22
Data Trends, Inc., *a / universal buffer / DESCR: flexible message buffering unit handles up to 50 MIMO terminals; connects either locally or remotely to a computer, utilizing only one communications channel of the computer / USE: removes burden from computer; reduces communications channels required; reduces communications line costs / \$34,400 to \$49,300 / C22
Dialight Corp. — see L1
Executone, Inc.
Friden Inc., 2350 Washington Ave., San Leandro, Calif. / Collectadata 30 System / DESCR: advanced data collection system. Transmitters spotted throughout plant send data over common cable to central receiver which punches tape with automatic time-code entry. Variety of transmitting units for individual requirements: punched card, dual punched card, punched ID badge, combination card-badge. Special accuracy checks / USE: collects data in punched tape form for preparation of management reports; attendance recording / - / C22
Friden, Inc., *a / Dual Teledata / DESCR: transmitter-receiver for 5-, 6-, 7- or 8-channel paper tape. Transmits alternately over two transmission channels to double normal speed. Parity check for accuracy / USE: data communications / - / C22
Friden, Inc., *a / message and data communications equipment / DESCR: Flexowriters with 3- or 4-bank keyboards and 5- or 8-channel punched tape facilities; prepare original document and punched tape for transmission / USE: data communications / - / C22
Friden Inc., *a / Teledata / DESCR: transmitter-receiver for 5-, 6-, 7-, or 8-channel paper tape. Parity check for accuracy. Compatible with Data-Phone / USE: data communications / - / C22
Friden, Inc., *a / Teledata Switching Control Unit / DESCR: regulated two-way Teledata transmission in multi-station hookups; signals that data is to be transmitted, selects receiving station, isolates malfunctions or line faults / USE: data communications / - / C22
General Devices, Inc.
General Dynamics/Electronics, 1400 North Goodman St., Rochester, N.Y. 14601 / SC-309 binary data transmitter/receiver unit / DESCR: provides full-duplex telephone facility data transmission at rates from 75 to 2400 B/S. Available with low or hi-stability regenerated receiver timing or without timing for asynchronous operation. The ACG tracks continuously for receiver input levels between -1 to -35 dbm. Weight: 16½ lbs.; 25 watts input power in full-duplex mode / USE: transmitting digital data over telephone line facilities / less than \$2000 in unit quantity / C22
General Dynamics/Electronics, *a / SC-321 data transmission terminal / DESCR: sends or receives data on a half-duplex basis over 3K telephone lines at data rates up to 350 characters per second. Punched card, paper tape, an incrementally driven magnetic tape media may be used. Buffer storage, code conversion, and automatic retransmission for error correction are features included / USE: transmit or receive digital data over 3K channel / \$5000 to \$20,000 / C22
General Dynamics/Electronics, *a / SC-323 magnetic tape data transmission terminal / DESCR: sends or receives computer compatible magnetic tape on a half-duplex basis over 3K telephone lines at data rates up to 350 characters per second. Buffer storage, code conversion, and automatic retransmission of data for error correction are features included / USE: transmit or receive digital data over 3K channel / \$35,000 to \$50,000 / C22

General Instrument Corp., Defense and Engineering Products Group, Radio Receptor Div., Andrews Rd., Hicksville, N.Y. 11802 / communications systems / DESCR: a wide variety of communications systems utilizing analog and/or digital information / USE: for any custom application / various / C22

General Instrument Corp., Systematics Div., 3216 West El Segundo Blvd., Hawthorne, Calif. / Telepunch / DESCR: data communication system. Connects IBM card punch directly to Teletypewriter for on-line card send/receive. Models available for model 28 (5-level) and model 35 (8-level) Teletype equipment. TWX-compatible / USE: data communication / \$3150 to \$4400 / C22

Gulton Industries, Inc.

IBM, Federal Systems Div.

Lamson Corp.

Lenkurt Electric Co., Inc.

Parzen Research, Inc., 48 Urban Ave., Westbury, L.I., N.Y. / computer-compatible communications systems / DESCR: design and fabrication of computer-compatible communications systems. Digitally controlled and monitored equipment for multiple channels / USE: for military and industrial applications / - / C22

Quindar Electronics, Inc., 5 Lawrence St., Bloomfield, N.J. / data transmission equipment / DESCR: AM or FS tone signalling for two distant terminals or party line operation / USE: for information exchange, alarm monitoring, or command signaling / \$230 and up / C22

RCA Electronic Data Processing — see C24

Rixon Electronics, Inc.

Robertshaw Controls Co., Aeronautical & Instrument Div., Santa Ana Freeway at Euclid St., Anaheim, Calif. / Multilok 6000 & 6001 - 6002 / DESCR: telegraph and data terminal equipment for all types of transmission media: terminals - 2400 B.P.S.; tone keyers - 3000 B.P.S. / USE: point to point in conjunction with S.P.S. / \$25,000 to \$55,000 / C22

Scan-Am Co., 4108 W. Crystal Lake Rd., McHenry, Ill. / Ring-Master internal communications / DESCR: push-button dialing, ten-button master stations with all-to-all calling activities, calls routed through a central exchange / - / - / C22

S-I Electronics, Inc., 103 Park Ave., Nutley 10, N.J. / digital communications systems / DESCR: gathers type-writer and other asynchronous data / USE: for transmitting over data-phones and similar wire line systems / \$2000 to \$5000 / C22

Tally Corp., 1310 Mercer St., Seattle, Wash. 98109 / Mark 1 series data communication systems / DESCR: data communications terminals which transmit and/or receive in parallel perforated tape data using ordinary telephone lines; speed up to 75 characters/second; parity checking feature available / USE: communicating perforated tape data between locations / \$600 to \$5070 / C22

TELAutograph Corp., 8700 Bellanca Ave., Los Angeles, Calif. 90045 / AUTO-writer / DESCR: instantaneous transmission of handwriting to one or many remote points, individually or simultaneously. Plain paper, or up to 4-ply forms at transmitter, or up to 2-ply forms at receiver / USE: for data transmission / \$1250 (or \$20 per mo. plus service on lease) / C22

TELAutograph Corp. — see Fl

The Teletypewriter Corp., 445 Fairfield Ave., Stamford, Conn. / data communications systems / DESCR: complete line of transmitters for large-scale processing systems permitting transmission of computer queries from keysets at various line-speeds and in various formats / USE: with on-line airline reservations systems, on-line bank systems, and others / upon request / C22

Teletype Corp.

Transitrol International Corp., 615 Winters Ave., Paramus, N.J. / data modems / DESCR: digital transmission and receiving equipment; audio-tone signalling equipment (voice-frequency carrier) of amplitude modulation, frequency shift, and phase shift types / USE: data transmission over switched network, leased or private circuits / \$3000 up double-ended (send and receive) / C22

Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N.J. 07631 / data-tone transmission system / DESCR: binary form data is tone modulated-transmitted-received-demodulated. Two way operation in-

cludes power supplies / USE: data transmission via telephone / \$300 to \$1500 / C22

Victor Comptometer Corp., Business Machines Div.

Virginia Electronics Co., Inc., River Rd. and B & O RR, Washington, D.C. 20016 / Velco Model #175 communication control systems / DESCR: system supplies the keying contacts and modulation to the transmitter, and requires only the audio signal from the receivers. Currently designed for sixty radiophone channels / USE: control of a multiplicity of communication channels with a multiplicity of operators / \$75,000 to \$100,000 / C22

C22A. COMPUTERS

AC Spark Plug Div., General Motors Corp.

Adage, Inc., 292 Main St., Cambridge, Mass. 02142 / ADAGE 770⁰ / DESCR: links any number and kind of analog computers to any number and kind of digital computers / USE: for simulation and data acquisition / \$50,000 to \$200,000 / C22A

Adage, Inc. *a / AMBILOG 200⁰ / DESCR: stored program signal processor. It has digital in, analog in, digital out- and analog output / USE: simulation, pattern recognition wave form analysis, data acquisition, data processing in real time, signal generation / \$75,000 to \$200,000 / C22A

Beckman Instruments, Inc., Systems Division, 2400 Harbor Blvd., Fullerton, Calif. 92634 / computers / DESCR: analog, hybrid integrated and real-time digital computers; high- and medium-speed data acquisition and processing systems; communications and telemetry demodulation equipment / - / - / C22A

Bendix Corp., Research Laboratories Div.

Canadian Aviation Electronics Ltd., Box 2030 "St. Laurent", Montreal, Canada / digital and analog computers / DESCR: on line data processing and code conversion equipment; servo systems, supervisory control and telemetry, analog to digital conversion, magnetic detection equipment / USE: data communication, control and simulation / - / C22A

C-E-I-R, Inc.

Clary Corp.

Computer Products, Inc.

Data Processing Equipment Exchange Co.

DI/AN Controls, Inc.

Digital Equipment Corp. — see C24

Hagan Controls Corp. — see A4, C32, D1, S1

IBM, Federal Systems Div.

ITT Data and Information Systems Div. — see C24

Librascope Group, General Precision, Inc.

RCA Electronic Data Processing — see C24

Sperry Gyroscope Co., Div. of Sperry Rand Corp.

Systems Data Processing Co.

Systems Engineering Laboratories, Inc., P. O. Box 9148, 4066 N.E. Fifth Ave., Fort Lauderdale, Fla. 33310 / computers / DESCR: 24-bit plus parity, serial binary, memory 4096 words expandable to 16,384 words. Cycle time, 8 microsec; add, 16 microsec; multiply, 200 microsec. Standard and optional input, output / - / - / C22A

The Teletypewriter Corp., 445 Fairfield Ave., Stamford, Conn. / computers / DESCR: Teletype data processor, large-scale, on-line, multiple-computer data-processing system with many peripheral subsystems; Magnetron Reservoir data processor, special computer for airline reservations and inventory systems / USE: airline reservations, inventory and passenger-record systems, on-line banking systems, and others / upon request / C22A

C23. COMPUTERS, ANALOG

Applied Dynamics, Inc.

Argonaut Associates, Inc. — see C24A

Belock Instrument Corp., Research Laboratories Div.

Burlingame Associates, Ltd.

Burr-Brown Research Corp.

Canadian Aviation Electronics Ltd. — see C22A

Canadian Research Institute

Computer Products, Inc.

Consolidated Electrodynamic Corp.,

360 Sierra Madre Villa, Pasadena, Calif. 91109 / analog computer function modules / DESCR: computers constructed from these encapsulated modules / USE: to solve arithmetic and algebraic problems, control and simulate processes, and perform many other functions / - / C23

Electronic Associates Inc.

Feedback Controls, Inc.

General Computers, Inc., 5990 W. Pico Blvd., Los Angeles, Calif. 90035 / special purpose analog computers / DESCR: special purpose computers built around our line of standard operational amplifiers, for economy and fast delivery / USE: in computation, data reduction, and simulation / - / C23

GPS Instrument Co., Inc., 188 Needham St., Newton, Mass. / analog computers / DESCR: general purpose analog computers with high-speed capability for real time, real time repetitive and compressed time operation, and direct compatibility with digital computer systems. Computer rental services. Computer components / - / \$25,000 to \$300,000 / C23

Hagan Controls Corp. — see A4, C32, D1, S1

Heath Co., subsidiary of Daystrom, Inc. Honeywell, Special Systems Div., Queen & So. Bailey Sts., Pottstown, Pa. / special purpose analog computers / DESCR: computers specifically designed for process application. Feed forward control, unique measurements easily implemented. Operating range 30-120°F. Modular plug-in construction / USE: solve mathematical relationship of process variables / \$2000 to \$50,000 / C23

IBM, Federal Systems Div.

Leeds & Northrup Co.

Librascope Group, General Precision, Inc.

Link Group, General Precision, Inc., Systems Div. — see S3

Loral Electronics Corp.

F. B. McLaren & Co., Inc., 15 Stepar Pl., Huntington Station, L.I., N.Y. / analog computers / DESCR: custom designed precision electromechanical systems to perform specific mathematical operations in military and industrial computer applications / USE: data conversion — voltage to position, velocity, voltage, etc. / variable, depending on application / C23

Milgo Electronic Corp., 7620 N.W. 36th Ave., Miami, Fla. 33147 / Milgo Model 4010 analog computer / DESCR: general purpose, completely solid state, analog computer with maximum of 700 operational amplifiers, capable of being expanded into a digital/analog hybrid system / USE: for scientific analog computation and simulation / \$50,000 to \$250,000 / C23

The Perkin-Elmer Corp.

George A. Philbrick Researchers, Inc., 127 Clarendon St., Boston, Mass. 02116 / electronic analog computers / DESCR: GAP/R sells computing components in modular structures for general purpose use / - / price according to requirements / C23

Redifon Limited, Computer Dept., Gatwick Rd., Crawley, Sussex, England / 2/64 computing system / DESCR: system contains 120 amplifiers, 160 potentiometers, 16 multipliers, 15 arbitrary function generators, 16 non-linear units, 4 comparators, 1 digital voltmeter, 2 control panels, 2 time bases, 2 patchboards / USE: research and simulation purposes / £7000 to £40,000 / C23

Redifon Limited, Computer Dept., *a / 10/20 analog computer / DESCR: contains 21 DC drift corrected amplifiers, 32 integrators, 30 potentiometers, 1 control panel, 1 calibration panel, 1 removable patch panel, complete power supplies, 2 servo multipliers / USE: educational/research purposes / £2300 to £4500 / C23

Reeves Instrument Co.

Reflectone Electronics Division - Universal Match Corp.

Seismograph Service Corp., Box 1590, Tulsa, Okla. / optical analog computer / DESCR: an instrument designed to solve potential field equations through the use of models; particularly useful in handling gravity and magnetic problems / USE: to compute the gravitational response of a model / \$3200 / C23

Societe d'Electronique et d'Automatisme

Sperry Farragut Co., Div. of Sperry Rand Corp.

Sylvania Electronic Systems

Syston-Donner Corp., 888 Galindo St., Concord, Calif. 94520 / general purpose analog computers / DESCR:

transistorized desk top series including 20, 40, and 80 amplifier units operating over full ±100 volt computing range; full capacity pre-wired cabinets, removable problem board / USE: to solve ordinary and partial differential equations by solution, simulation or logic analysis / \$5000 to \$55,000 / C23

TRW Space Technology Laboratories

C24. COMPUTERS, DIGITAL

Abacus Information Management Co.

AC Spark Plug Div., General Motors Corp.

Advanced Scientific Instruments, Div. of EMR, 8001 Bloomington Freeway, Minneapolis, Minn. 55420 / ASI 210 / DESCR: low cost, high speed, desk size digital computer for scientific and engineering applications. Magnetic tapes, cards, printers, etc. available / USE: scientific and engineering applications / \$70,000 to \$120,000 / C24

Advanced Scientific Instruments, Div. of EMR, *a / ASI 2100 / DESCR: high speed (2 microsecond memory cycle-time) digital computer. Peripheral equipment, tapes, cards, etc. available / USE: scientific and engineering applications / \$85,000 to \$200,000 / C24

Arma Div., American Bosch Arma Corp., Roosevelt Field, Garden City, L.I., N.Y. 11532 / MICRO A - digital computer / DESCR: a general purpose serial, binary, internally programmed microminiaturized digital computer; modular construction, has an NDR0 memory / USE: for military aerospace, shipboard and ground applications / \$100,000 to \$350,000 / C24

Autonetics, a Division of North American Aviation, Inc.

Bailey Meter Co., 29801 Euclid Ave., Wickliffe, Ohio 44092 / 756 information and computing system / DESCR: solid-state system to gather data, make on-line or off-line computations / USE: power and process industry applications / - / C24

The Bendix Corp., Eclipse-Pioneer Div.

Bendix Corp., Research Laboratories Div.

The Bunker-Ramo Corp.

Computer Logic Corp.

Control Data Corp.

Control Data Corp., Control Systems Div., 4455 Miramar Rd., La Jolla, Calif. / Control Data 636 computer / DESCR: third generation control computer used in the control systems designed by the division for each customer / USE: process control, monitoring and logging / - / C24

Digital Electronics Inc., 2200 Shames Drive, Westbury, N.Y. / Digicak 3080 / DESCR: general purpose, with paper tape punch and reader, IBM Electric Writer, 1024-4096 27-bit words, 200 KC machine. Punched card and magnetic tape accessories / USE: for small business, scientific and training / \$14,900 / C24

Digital Equipment Corp., 146 Main St., Maynard, Mass. / Programmed Data Processor-1 / DESCR: single address, single instruction, stored program computer operating on 18-bit, 1's complement binary numbers. Computation rate — 100,000 additions/second. Peripheral devices may be controlled simultaneously / USE: ranges from scientific on-line experimentation to real-time process control / \$120,000 to \$350,000 / C24

Digital Equipment Corp., *a / Programmed Data Processor-4 / DESCR: single address, parallel, binary computer with 18-bit word length; has random access magnetic core memory; complete cycle time of 8 microseconds; computation rate 62,500 additions/second. Operates with variety of peripheral devices / USE: ranges from scientific on-line experimentation to real-time process control / \$56,500 to \$150,000 / C24

Digital Equipment Corp., *a / Programmed Data Processor-5 / DESCR: general purpose computer with magnetic core memory; a single address, fixed word, stored program computer operating on 12-bit, 2's complement binary numbers / USE: ranges from scientific on-line experimentation to real-time process control / \$24,000 to \$80,000 / C24

Digital Equipment Corp., *a / Programmed Data Processor-6 / DESCR: has time-sharing capability as standard feature. Uses 36-bit word length; adds in from 2.7 to 4.3 microseconds; designed to use pro-

Products and Services

- cessors, memories and input/output devices of any size or speed / USE: ranges from scientific on-line experimentation to real-time process control to time-shared operations / \$240,000 to \$500,000 / C24
- N. V. Electrologica, 214 Stadhoudersplantsoen, The Hague, The Netherlands / EL X1 / DESCR: magnetic core memory 512-32,768 words of 27 bits excl. 1 parity bit, cycle time 32 mms; backing store: magnetic drum (524,288 words); time sharing and interrupt features / USE: general purpose machine / nf 440,000 to hf 3 million / C24
- N. V. Electrologica, *a / EL X8 / DESCR: magnetic core memory 16,384-262,144 words of 27 bits excl. 1 parity bit, cycle time 2.5 mms; backing store: magnetic core up to 131,072 words (cycle time 10 mms) and drum (524,288 words); time sharing features / USE: general purpose machine / hf 1.2 million to more than hf 10 million / C24
- Electro-Mechanical Research, Inc. Fedder Electronics Corp.
- Ferranti Electronics, Div. of Ferranti-Packard Electric Ltd., Industry St., Toronto 15, Ont., Canada / FP6000 computer system / DESCR: fully automatic time-sharing system, modular in construction, minimum core storage 4096 words of 24 digits each can be expanded in increments of 4096 words to 32,768 words / USE: data processing, scientific and engineering applications / \$186,000 to \$2,000,000 / C24
- Fischer & Porter Co.
- Florida State University
- Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / 6010 Electronic Computer / DESCR: small scale, solid state computer for business applications requiring high-speed computation and descriptive alphabetic information / USE: billing, payroll, statistical quality control, etc. / - / C24
- Friden, Inc., Service Bureau Div., a subsidiary of the Singer Mfg. Co.
- Hagan Controls Corp. — see A4, C32, D1, S1
- Harman Kardon Inc., Data Systems Div.
- Honeywell Electronic Data Processing Div., 60 Walnut St., Wellesley Hills, Mass. 02181 / H-200, H-300, H-400, H-1400, H-800, H-1800 / DESCR: digital computers / \$3000 to \$70,000 per month rental / C24
- Honeywell, Special Systems Div., Queen & So. Bailey Sts., Pottstown, Pa. / H610 digital computer system / DESCR: general purpose, core-drum, process control computer featuring advanced input/output. Equipment, indexing, indirect and relative addressing, 24 bit instruction word. Real-time applications / USE: process control / \$100,000 to \$300,000 / C24
- International Business Machines Corp., Data Processing Div., 112 E. Post Rd., White Plains, N.Y. 10601 / IBM System 360 / DESCR: single system spanning performance range from medium to large computers; includes 19 combinations of graduated speed and memory capacity and 44 I/O units / USE: for information handling jobs encompassing all types of applications / \$2700 to \$115,000 / C24
- International Computers and Tabulators Ltd.
- Itek Corporation
- ITT Data and Information Systems Div., P. O. Box 205, Paramus, N.J. / ITT 7300 ADX Automatic Data Exchange System / DESCR: fully automatic, electronic solid state, store and forward management information and control system operating in real time and capable of providing or receiving information to or from any known computer system or ancillary equipment / USE: information gathering, information and message switching, information retrieval / \$60,000 to \$1,250,000 / C24
- Leeds & Northrup Co.
- Librascope Group, General Precision, Inc.
- Link Group, General Precision, Inc., Systems Div. — see S3
- Loral Electronics Corp.
- Mathatronics, Inc., 257 Crescent St., Waltham, Mass. 02154 / Mathatron desk-top computer / DESCR: stored-program digital computer with calculator type keyboard for direct entry of data and strip printer for continuous printed output on paper tape / USE: general purpose automatic digital computation of all kinds / \$3490 to \$7000 / C24
- Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility
- Monroe International, Inc., 555 Mitchell St., Orange, N.J. / Monrobot XI electronic computer / DESCR: desk-size, stored program, digital computer; 1024 or 2048 32-bit words. Two instructions or 9 decimal digits, or 5 alphanumeric characters per word / USE: general purpose business and scientific applications / Base price \$24,500; \$700 per month / C24
- The National Cash Register Co.
- Nortronics Div., Northrop Corp., 1 Research Park, Palos Verdes Peninsula, Calif. / NDC-1000 / DESCR: airborne, high-speed general purpose digital computer, designed for aircraft operations ranging from navigation to command and control. Employs 95% integrated circuitry; size - .65 cubic feet; weight - 35 lbs.; power consumption - 89.5 watts / - / dependent on system application / C24
- Packard Bell Computer, a div. of Packard Bell Electronics
- Philco Corp., a subsidiary of Ford Motor Co., Communications & Electronics Div., Information Systems Dept.
- RCA Electronic Data Processing, Cherry Hill, Camden 8, N.J. / RCA 301 / DESCR: medium-scale computer; modularly-expandible, 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
- Reflectone Electronics Division - Universal Match Corp.
- Rese Engineering Inc.
- Scientific Data Systems, Inc.
- Societe d'Electronique et d'Automatisme
- Sylvania Electronic Systems
- Systems Engineering Laboratories — see C22A, D2A
- Tech Serv Inc.
- The Teleregister Corp., 445 Fairfield Ave., Stamford, Conn. / Telefile Data Processor / DESCR: general-purpose, stored-program, random-access, on-line/off-line data processor with 32K core memory, 29 transfer points; accommodates wide range of peripheral subsystems / USE: on-line, real-time applications in airline, hotel, banking and other industries / upon request / C24
- TRW Space Technology Laboratories
- UNIVAC Div. of Sperry Rand Corp.
- UNIVAC Twin Cities Operations of Sperry Rand Corp.

C24A. COMPUTER, SPECIAL PURPOSE

AC Spark Plug Div., General Motors Corp.

Aero Geo Astro Corp.

Aircrafts Armaments, Inc. — see C25

American Hydromath Co., 24-20 Jackson Ave., Long Island City 1, N.Y. / Qualitrol / DESCR: a device for automatically computing results in Industrial Quality Control by attributes (good or bad). Set desired Overall Percent Defective on Quality Level Selector; device takes over / USE: automatic supervision of continuous production process / \$200 to \$1000 / C24A

Applied Dynamics, Inc.

Autonetics, a Division of North American Aviation, Inc.

Avtron Manufacturing, Inc.

Belock Instrument Corp., 112-03 14th Ave., College Point, L.I., N.Y. 11356 / special purpose analog computer / DESCR: design, development and manufacture of special purpose analog computers for use in simulation, navigation, missile launch and gun fire control systems / USE: military systems / \$5000 to \$100,000 C24A

Bendix Corp., Industrial Controls

Div.

Bendix Corp., Research Laboratories

Boonschaft & Fuchs, Div. of Daystrom Inc., Hatboro Industrial Park, Hatboro, Pa. / Series 600 statistical computer / DESCR: computes mean value, standard deviation from discrete or analog inputs. Expandable to Chi test, T test and correlation co-efficient / USE: on line or from stored data / \$2000 to \$20,000 / C24A

Bowmar Instrument Corp.

Burr-Brown Research Corp.

Canadian Aviation Electronics Ltd. — see C22A

Cognitronics Corp., 549 Pleasantville Rd., Briarcliff Manor, N.Y. / graphic arts computers / DESCR: solid state computers designed to process punched paper tape and produce punched tape output containing all necessary codes for hyphenation and justification / - / C24A

Coleman Electronic Systems, 3210 W. Central Ave., Santa Ana, Calif. 92702 / Coleman Vote Tallying System / DESCR: a special purpose digital computer with ballot handling equipment for vote counting using paper ballots / USE: by county government for vote tabulation / \$800,000 to \$900,000 / C24A

Computer Logic Corp.

Consolidated Electrodynamics Corp.

Contronics, Inc., 43 Leon St., Boston 15, Mass. / systems for alpha-numeric display / DESCR: alpha-numeric display systems interface with computers (on or off line). Writing rate up to 100,000 characters/second. Simultaneous multiple channel display; output amplifiers matched to 50Ω for long transmission lines / - / C24A

DI/AM Controls, Inc.

Electronic Modules Corp. — see C31

Epsco, Inc.

Evershed & Vignoles Ltd.

Fairchild Space and Defense Systems

Feedback Controls, Inc.

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 Electric Co., Radio Guidance

Operation, Northern Lights Office Bldg., Syracuse, N.Y. 13201 / Military surfaced based members of the Compatibles/600 Computers / DESCR: Compatibles/600 computer series share common logic structure. The military surfaced based members are real-time computers, models M-625 and M605 / USE: military real-time applications / varies as to application / C24A

IBM, Data Processing Div.

IBM, Federal Systems Div.

Industrial Nucleonics Corp.

Intectron, Inc., 2300 Washington St., Newton Lower Falls, Mass. 02162 / Intectron Series II Model 100 / DESCR: special-purpose optical computer designed to evaluate 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

Intectron, Inc., *a / Intectron Series III Optical Correlator / DESCR: plots correlation contours on an xy plotter obtained by optical superposition and automatic scanning of two 35mm negatives over their entire areas / USE: to compute correlation between photographic images / \$8500 to \$11,000 / C24A

ITT Data and Information Systems

Div. — see C24

Pa. / special purpose computers / DESCR: digital computers for process control, material analysis, quality control, communications, data logging, operation programming / - / \$500 to \$500K / C24A

Philco Corp., a subsidiary of Ford Motor Co., Communications & Electronics Div., Information Systems Dept.

RCA Electronic Data Processing — see C24

Reflectone Electronics Division - Universal Match Corp.

Rese Engineering Inc.

Sanders Associates, Inc.

The Scam Instrument Corp.

Sperry Gyroscope Co., Div. of Sperry Rand Corp.

Sylvania Electronic Systems

Systems Engineering Laboratories — see C22A, D2A

The Teleregister Corp., 445 Fairfield Ave., Stamford, Conn. / Magnetronic

reservior / DESCR: special-purpose, on-line data processor with random-access drum-type inventory / USE: airline reservations and inventory / upon request / C24A

TRW Space Technology Laboratories

Wayne Kerr Corp., 1633 Race St., Philadelphia 3, Pa. / transfer function computer / DESCR: directly measures coefficients of transfer functions of servomechanisms, networks, etc., up to a fourth order numerator over sixth order denominator / USE: in research design and production testing of systems / \$8000 to \$9000 / C24A

Whittaker Corp.

Products and Services

memory cores, planes, and stacks / depends on system / C25

General Radio Co.
Hewlett-Packard Co.
Interelectronics Corp.
Kay Electric Co.
Lavoie Laboratories, Inc., Matawan-Freehold Rd., Morganville, N.J. 07751 / Robotester / DESC: tape programmed automatic test set applicable to all types of computer module cards in general purpose automatic test system / USE: production and maintenance testing / \$8000 to \$15,000 / C25

Librascope Group, General Precision, Inc.
Nortronics Div., Northrop Corp., 1 Research Park, Palos Verdes Peninsula, Calif. / Datico / DESC: solid-state, computer modified and/or tape programmed building block checkout system. Individual, drawer-type subsystems and modules available for all functional requirements / USE: in Polaris submarines and other military applications to test electronic components / dependent upon system requirement / C25

Albert Pratt
Procedyne Associates Inc., 221 Somerset St., New Brunswick, N.J. 08902 / phase meters / DESC: manufacture a line of phase meters (both digital and meter readout). Cover frequency ranges from 0.1cps to 20,000cps / USE: electronic test equipment / \$750 to \$3950 / C25

The Singer Company, Metrics Div., 915 Pembroke St., Bridgeport, Conn. 06608 / instruments — standards / DESC: electrical indicating instruments and laboratory standards / USE: measurement / \$100 to \$10,000 / C25

The Singer Company, Metrics Div., *a / programmable inductive voltage divider / DESC: programmable from decimal, BCD, straight binary. High accuracy, high input impedance, low output impedance, very low phase shift / USE: automatic checkout equipment / - / C25

The Singer Company, Metrics Div., *a / programmable synchro and resolver test equipment / DESC: allows random access to any angle from punched cards, tape, or remote switches / USE: automatic checkout equipment / - / C25

Sunshine Scientific Instruments
Systems Engineering Laboratories — see C22A

C26. COMPUTER COMPONENTS

Acromag, Inc., 15360 Telegraph Rd., Detroit, Mich. 48239 / thermocouple reference junction / USE: to compensate for reference junction change due to change in ambient temperature / \$75 / C26

Advance Electronics, Ltd. — see C25

Aero Geo Astron Corp.
Aerovox Corp.
Airpac Electronics, Inc.
American Lava Corp.
AMP Inc., Eisenhower Blvd., Harrisburg, Pa. / computer components / DESC: standard and custom designs; patchcord programming systems and panels, pinboards, power supplies, and digital circuit devices / USE: computer programming / - / C26

Amperex Electronic Corp.
Adlogic Controls, Inc., 200 Frank Rd., Hicksville, L.I., N.Y. 11801 / precision potentiometers / DESC: wire-wound, linear and non-linear, single-turn and multi-turn, single-gang and multi-gang, 1/2" diameter to 15" diameter / - / \$6 to \$1000 / C26

Astron Div., Renwell Industries, Inc., 225 Grant Ave., East Newark, N.J. / capacitors / DESC: fixed capacitors — electrolytics, paper, tantalum feed-thru, Mylar, oil-filled paper, metallized / - / - / C26

Astron Div., Renwell Industries, Inc., *a / filters / DESC: RFI noise suppression; also custom made to specifications / - / - / C26

Audio Instrument Co., Inc.
Babcock Electronics Corp.
Ballastan Corp., 1701 North Calhoun St., Fort Wayne, Ind. / components / DESC: designing and manufacturing of special transformers, reactors, filters, saturable reactors / USE: for commercial and military components / dependent upon requirements / C26

Berg Electronics, Inc., 142 Reno St., New Cumberland, Pa. / strip connectors / DESC: manufacturer of strip connectors, solderless terminals, and automatic assembly equipment for the application of these terminals / USE: computer, radio-TV,

appliance and telephone industries / \$1 to \$75 per unit / C26

Bourns, Inc., Trimpot Div., 1200 Columbia Ave., Riverside, Calif. / adjustment and precision potentiometers / DESC: LSAP, WGAP, and single-turn rotary types; commercial and military type models; humidity proof, unsealed, and special purpose; 32 std. models, four terminal types, three mounting styles / USE: voltage balancing and current adjustment / \$1.50 to \$30 / C26

Bourns, Inc., Trimpot Div., *a / precision potentiometers / DESC: one, three, five, ten-turn servo and brushing mount models, 7/8" and 1/2" diameters; KNOBPOT clock-face potentiometers; and turns counting dials / USE: voltage and current adjustment / \$6.50 to \$30 / C26

Brand-Rex Division, American Enka Corp., 31 Sudbury Rd., Concord, Mass. / wire and cable / DESC: wire with Teflon, Vinyl, Kynar, polyethylene, nylon insulation. Cables: coaxial, communications, supervisory control, interconnecting, etc. with plastic, neoprene and butyl rubber jackets; shielded and unshielded; round or flat; color coded / - / C26

The Bristol Co.
Bryant Computer Products — see C10, H1, M2, S9
Burr-Brown Research Corp.
Cadre Industries Corp.
Calvert Electronics Inc., 220 E. 23rd St., New York 10, N.Y. / electron tubes / DESC: microwave tubes, power tubes, cathode ray tubes, storage tubes, image intensifiers / - / C26

Centralab, the Electronics Div. of Globe-Union Inc., P. O. Box 591, Milwaukee, Wis. 53201 / resistors (variable) / DESC: composition, wirewound and hot molded types in wattage ranges from 1/20 watt to 5 watt / USE: general applications, including trimmer / 11¢ to \$27 (production quantities) / C26

Centralab, the Electronics Div. of Globe-Union Inc., *a / ceramic capacitors / DESC: ceramic disc, tubular, feed-thru, tubular trimmer and rotary trimmer / USE: filter, by-pass, oscillator compensation, capacitive balance (discs & fixed tubular)...trimmers used for capacitive balance / 4¢ to \$300 (production quantities) / C26

Clarostat Mfg. Co., Inc.
Clary Corp.
Clevite Corp., Semiconductor Div., 200 Smith St., Waltham, Mass. 02154 / semiconductor devices / DESC: gold bonded germanium diodes; germanium and silicon power transistors; 3 and 4 layer silicon diodes; zener diodes; planar epitaxial silicon transistor, spacesaver transistor; silicon rectifiers / USE: computer components / 15¢ to \$150 ea. / C26

Computer Control Co., Inc.
Computer Logic Corp.
Computer Products, Inc.
Continental Connector Corp.
Corning Electronics, Corning Glass Works
Corning Glass Works, Bradford, Pa. / glass memories / DESC: solid ultra-sonic delay lines of glass compositions; nominal temperature coefficients of time delay of zero; high frequency serial capability; with excellent video response and time stability, high data rates, low signal loss / USE: digital storage with numerous applications / about 2¢ to 50¢ per bit / C26

Datamec Corp.
Delco Radio Div., General Motors Corp., 700 E. Firmin St., Kokomo, Ind. / semiconductors / DESC: germanium power transistors 3-50 amperes; high voltage silicon power transistors 200-500 volts, 50ma to 10 amperes; silicon rectifiers 15-250 amperes; zener diodes / USE: transistors — switching and regulation; rectifiers — blocking and reference / \$1 to \$150 / C26

Dialight Corp. — see L1
Diamond Electronics, Diamond Power Specialty Corp.
Diamonite Products Mfg. Co.
DI/AN Controls, Inc.
Digital Development Corp. — see M2
Drake Manufacturing Co.
Efcron Div., General Instrument Corp., Patterson Place, Garden City, L.I., N.Y. / capacitors / DESC: tantalum and film capacitors / USE: in the construction of electronic devices / 35¢ to \$30 / C26

Elco Corp.
Electric Indicator Co., Inc., Camp Ave., Stamford, Conn. / centrifugal blowers / DESC: centrifugal blow-

ers which operate quietly and efficiently where cooling electronic equipment is required / USE: to flush air through cooling cabinets / \$20 to \$100 / C26

Electric Indicator Co., Inc., *a / hysteresis synchronous motors / DESC: 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: for magnetic tape drive and rewind / \$30 to \$300 / C26

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

The Electro Motive Mfg. Co., Inc., S. Park & John St., Williamstown, Conn. / capacitors, fixed: dipped mica, molded mica, Mylar-paper dipped, tubular paper; capacitors, variable mica / DESC: radial and axial lead, mica dielectric, mylar, paper, foil units / - / - / C26

Electro Products Laboratories, Inc., 6125 W. Howard St., Chicago (Niles), Ill. / magnetic pickups / DESC: when ferrous metal, without contact, interrupts magnetic field of pickup, digital (AC frequency) and analog (AC voltage) output is produced for speed control, indexing, etc. / - / \$1.50 to \$265 / C26

Electro Rack, 1341 So. Claudia St., Anaheim, Calif. 92805 / computer consoles / DESC: fully integrated computer consoles. Related accessories such as blowers, slides, racks, chassis, dollies, and sound proofing / USE: for industrial and military computer applications / \$200 to \$1000 / C26

Electro-Mec Instrument Corp.
Electro-Mechanical Research, Inc.
Electro-Miniatures Corp.
Electron Ohio, Inc.
Elzee Metal Products Co., Inc.
Embee Electronics Corp., 10 N. Main St., West Hartford, Conn. / DC power supply / DESC: dual master power supply, ±300 Vdc 200ma, regulated and chopper-stabilized to .001% regulation and long-term drift (at constant temperature) / USE: provides ±100 Vdc for input to operational amplifiers / \$395 to \$420 / C26

Engineered Electronics Co.
Epsco, Inc.
EQUIPTO Electronics Corp., 435 Woodlawn Ave., Aurora, Ill. / EQUIPTO Enclosure System / DESC: racks, cabinets and consoles for housing electronic equipment and instrumentation / - / - / C26

Evershed & Vignoles Ltd.
Etec, Inc.
Fairchild Controls, Div. of Fairchild Camera and Instrument Corp., 225 Park Ave., Hicksville, L.I., N.Y. / potentiometers — linear and non-linear, mt/st/trimm. / DESC: precision single turn, multiturn, trimmer types potentiometers for computers and data processing systems. Also multiturn dials / USE: as input or output voltage setting or reading devices / \$3 to \$100 / C26

Fairchild Semiconductor, 313 Fairchild Drive, Mountain View, Calif. / semiconductors, microwave devices, test equipment, system modules / DESC: silicon planar epitaxial transistors, diodes, integrated microcircuits, microwave sources and varactor diodes, automatic multiparameter semiconductor test equipment, amplifiers, power supplies and other system modules / - / - / C26

Fairchild Space and Defense Systems Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / input-output devices / DESC: solenoid or keyboard operated machines which provide data for, or accept data from, other machines. Functions include accumulating, printing, transmitting / USE: general data processing / - / C26

Friden, Inc., *a / solenoid Add-Punch Model ACPITS / DESC: accepts data from other machines, accumulates, prints, and punches a paper tape for subsequent processing / USE: general data processing / - / C26

G. C. Electronics, Div. of Tectron Elects.
General Electric Co., Capacitor Dept., John St., Hudson Falls, N.Y. / motor run capacitors / DESC: paper-oil, metal cased, 165 to 440 VAC, .05 to 10 uf / USE: power-

factor improvement of tape drive motors / 60¢ to \$3 / C26

General Electric Co., Capacitor Dept., *a / Mylar film capacitors / DESC: tubular-wrapped, potted, axial leads, 100-600 volts DC, .001 to 2.0 uf / USE: blocking, by-pass and filtering in logic and similar circuits / - / C26

General Electric Co., Capacitor Dept., *a / stabilizing capacitors / DESC: paper-oil, metal cased, 165 to 660 VAC, .05 to 60 uf / USE: with transformer, to regulate input voltage to power supply / 60¢ to \$5 / C26

General Electric Co., Receiving Tube Dept.
General Instrument Corp., Capacitor Div., 63 Gouverneur St., Newark, N.Y. / fixed capacitors / DESC: electrolytic, mica, mylar, tantalum, film and paper / USE: electronic component / - / C26

General Instrument of Canada Ltd.
Giannini Controls Corp.
Hammond Manufacturing Co., Ltd., Edinburgh Rd. & Speedvale Ave., Guelph, Ontario, Canada / computer components / DESC: transformers, iron core components, metal panels, racks and enclosures / USE: to control, power and house computer systems / - / C26

Hathaway Instruments, Inc. — see R12
The A. W. Hayden Co. — see T11.3
Heath Co., subsidiary of Daystrom, Inc. Hewlett-Packard Co.
Houston Fearless Corp.
Hydro Molding Company, Inc.
IBM, Federal Systems Div.
IMC Magnetics Corp., Western Div.
Indiana General Corp., Magnet Div., 405 Elm St., Valparaiso, Ind. / permanent magnets / DESC: all types of metallic and ceramic permanent magnets, and magnet assemblies; plus complete line of magnetizing, demagnetizing and test equipment / USE: wide applications: electronic, holding, polarizing, electromechanical / - / C26

Industrial Electronic Engineers, Inc., 5528 Vineland Ave., North Hollywood, Calif. / rear-projection readout devices / DESC: models available with maximum character heights from 5/8" to 3 3/8". Capability of displaying up to 12 messages, which may be numbers, letters, words, symbols, colors / USE: to provide visual communication between man and machine / \$12.50 to \$40 / C26

Instrument Systems Corp., 111 Cantigue Rd., Westbury, L.I., N.Y. / Hall effect devices / DESC: crystalline and thin film hall generators for many computing applications, such as multiplication, function generation, magnetic readout / - / \$5 to \$75 / C26

International Diode Corp., 90 Forrest St., Jersey City 4, N.J. / fast switching germanium diodes / DESC: fast switching diodes with high forward conductance, reverse recovery time in nanoseconds and picoseconds with forward conductance of 100 to 500 ma @ +1V / USE: in computers and other circuits / \$1.25 to \$14.95 / C26

International Resistance Co.
Julie Research Laboratories, Inc., 211 W. 61st St., New York, N.Y. 10023 / precision wirewound resistors and networks / DESC: high precision wirewound resistors, networks, relay operated voltage dividers / USE: in analog computers, converters, simulators, also primary standard test instruments / - / C26

Kelvin Sales Co., 5919 Noble Ave., Van Nuys, Calif. 91409 / precision wirewound resistors and resistor networks / DESC: manufactured in accordance with Mil-R-93C. Details and qualification test data upon request / 90¢ to \$25 in quantities of 100 / C26

Kurman Electric Co., Div. of Kurman Instruments Corp.
Lear Siegler, Inc., Power Equipment Div., P. O. Box 6719, Cleveland, Ohio 44101 / magnetic particle clutches / DESC: clutches suitable for tape transport drive / - / - / C26

Librascope Group, General Precision, Inc. Littlefuse, Inc.
Mast Development Co., 2212 E. 12th St., Davenport, Iowa 22803 / random access projectors / DESC: models 132 and 136. Automatically finds, positions, projects any of 100 frames of 35 mm film strip in 3.5 seconds / USE: systems applications, quick reference filing, displays / \$30 to \$2095 / C26

Maxson Electronics Div.
Mecro-Lectric, Inc., 19 Debevoise Ave.,

Products and Services

- Roosevelt, L.I., N.Y. / precision potentiometer / DESCR: wire wound, linear and non-linear, sine and cosine, precision rotary switch / - / \$15 to \$500 / C26
- M-H Standard Corp.
- Microdot Inc., 220 Pasadena Ave., So. Pasadena, Calif. / coaxial connectors, coaxial cable / DESCR: crimp-type coaxial connectors and associated low-noise coaxial cable for quick connect and disconnect / - / 79¢ to \$1.20 / C26
- Miles Reproducer Co.
- James Millen Mfg. Co., Inc., 150 Exchange St., Malden, Mass. / computer components / DESCR: delay lines, magnetic shields, sockets, terminals, inductors, capacitors, knobs, dials, flexible couplings, shaft hardware, miniature components, encapsulated modular assemblies, monitor oscilloscopes, bezels, molded plastic parts, gear drives / USE: in construction and test of computers / 12¢ to \$500 / C26
- Monarch Metal Products, Inc.
- F. L. Mosley Co.
- Motorola Semiconductor Products Inc., 5005 E. McDowell Rd., Phoenix, Ariz. 85001 / semiconductor products / DESCR: integrated circuits including MECL, DTL, T_L, A and D converters, also silicon and germanium switching transistors; silicon controlled rectifiers; zener diodes; and molded assemblies / - / - / C26
- National Cash Register Co.
- NJE Corp.
- Norden Div. of United Aircraft Corp. — see C9
- Nortronics, A Div. of Northrop Corp. Nuclear Products Co., Inc.
- Nytronics, Inc., 550 Springfield Ave., Berkeley Heights, N.J. / molded, shielded subminiature inductors / DESCR: WEE-DUCTOR: encapsulated shielded inductor with range of .1 to 180,000µH in .375 x .157 package; SUPER WEE-DUCTOR: molded version of WEE-DUCTOR in package .410 x .164 with inductance range of .1 to 100,000µH / USE: pulse stabilization and tuning circuits / 30¢ to \$1.75 / C26
- Nytronics, Inc., *a / subminiature ceramic capacitors / DESCR: MIL-CAP: a CK05 and CK06 type per MIL-Spec 11015/18/19 with range of 47pf through 10,000 pf.; Deci-Cap: a cordwood-type tapped by 1/4 molded envelope that meets MIL-C-11015. / USE: in by-pass coupling on customer's circuit / 15¢ to \$4 / C26
- Packard Bell Computer, a div. of Packard Bell Electronics
- The Perkin-Elmer Corp.
- Perkin-Elmer Corp., Electronic Products Div.
- George A. Philbrick Researchers, Inc. Philco Corp., Lansdale Div., a subsidiary of Ford Motor Co.
- Premier Metal Products Co., Inc.
- Raytheon Co., Industrial Components Div., 55 Chapel St., Newton, Mass. 02158 / electron tubes / DESCR: electron tubes, knobs and other electronic hardware, magnetostriiction filters, spectrum analyzers, connectors / - / - / C26
- Resistance Products Co.
- Rixon Electronics, Inc.
- Robins Data Devices, Inc.
- ROTRON MANUFACTURING CO., INC.,** Hasbrouck Lane, Woodstock, N.Y. 12498 / FANS AND BLOWERS / DESCR: complete line of airmoving devices: fans and blowers designed specifically for all types of computer applications, cooling applications, tape slack control, memory core systems both military and commercial quality / USE: component / \$6.40 to \$150 / C26
- Sage Electronics Corp.
- Scientific Data Systems, Inc.
- F. W. Sickles Div., General Instrument Corp.
- Skottie Electronics
- Societe d'Electronique et d'Automatisme Solid State Electronics Corp.
- Sperry Farragut Co., Div. of Sperry Rand Corp.
- Sperry Gyroscope Co., Div. of Sperry Rand Corp.
- Sprague Electric Co.
- Stellarmetrics, Inc.
- Sunshine Scientific Instruments
- Superec Electronics Corp.
- The Superior Electric Co., 383 Middle St., Bristol, Conn. 06012 / SLO-SYN® Synchronous Motors / DESCR: permanent magnet type motors; basic shaft speed 72 rpm at 60 cycles. Can be stepped 200 times per revolution. Three-lead, four-lead, bifilar, explosion-proof and planetary gear types available / USE: driving motor for a-c synchronous operation or d-c stepping / \$36 to \$290 / C26
- Switchcraft, Inc., 5555 N. Elston Ave., Chicago, Ill. 60630 / connectors / DESCR: available from 1 to 6 circuits, lock coupling ring types or latch lock. Various sizes and shapes, straight, right-angle and chassis mount. Up to 15 amps / USE: audio inputs and outputs / 15¢ to \$7 / C26
- Systems Sales Co., a div. of Systems Mfg. Corp.
- Tempo Instrument Inc.
- Texas Instruments Inc.
- Transistor Electronics Corp. — see L1, V1
- Transkrit Corp.
- Tung-Sol Electric Inc.
- United Transformer Corp., 150 Varick St., New York, N.Y. 10013 / electric wave filters / DESCR: hermetically sealed, available from stock or custom-made to specifications / USE: for filtering high frequencies, low frequencies or a particular band of frequencies / cost depends on design / C26
- United Transformer Corp., *a / inductors / DESCR: iron core electronic component / USE: for inductance in electronic circuitry. Hermetically sealed and industrial types available from stock or made to specifications / \$1.65 and up, according to design / C26
- Ward Leonard Electric Co.
- Weston Instruments & Electronics
- Winchester Electronics/Division of Litton Industries, 19 Willard Rd., Norwalk, Conn. / electronic connectors and accessories / DESCR: contact, hermetically sealed, printed circuit, miniature, round, and rectangular, subminiature, quick disconnect and environmental types available / - / - / C26
- Winsco Instruments & Controls Co.
- Wright Engineering Co., Inc.
- Wright Line, a div. of Barry Wright Corp.
- C27. COMPUTING SERVICES (see also "Survey of Computing Services")**
- American Data Services, Inc.
- Applied Data Research, Inc. — see C30
- Booz, Allen Applied Research Inc., 135 S. LaSalle St., Chicago 3, Ill. 60603 / scientific and technical services / DESCR: 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 / - / - / C27
- Capital Business Service
- C-E-I-R, Inc.
- Computing Services, Ltd., Div. of KCS Ltd.
- The Data Center Corp., 3002 Midvale Ave., Los Angeles 34, Calif. / business applications programming, systems design, processing services / DESCR: specialists in 1401/1440/1410 accounting, inventory control, production control applications / - / \$100 to \$2500 per month / C27
- Data Computing Corp.
- Data Processing Corporation of America
- Datrol Corp. — see C30
- DELCO, Inc.
- The Diebold Group, Inc.
- Electronic Associates Inc.
- Electronic Data Service, Inc.
- Electronic Engineering Co. of Calif.
- Friden, Inc., a subsidiary of the Singer Co., Service Bureau Div., 396 Fifth Ave., New York, N.Y. 10018 / computing services / - / C27
- Friden, Inc. Service Bureau Div., a subsidiary of the Singer Mfg. Co. Gulton, Industries, Inc.
- Honeywell, Special Systems Div., Queen C So. Bailey Sts., Pottstown, Pa. / hybrid computer facility / DESCR: general purpose digital computer linked to two high speed analog computers, additional digital logic. Ability to perform process and control analysis and computer feasibility studies / USE: process simulation and control / \$25 to \$125 per hour / C27
- IBM, Federal Systems Div.
- Librascope Group, General Precision, Inc.
- McDonnell Automation Center, Box 516, St. Louis 66, Mo. / computing services / DESCR: complete automation service center employing 650. Equipment \$14,000,000 including 7000, 7094, complement of analog, Consulting, systems analysis, programming and data processing / USE: administrative and scientific areas / - / C27
- Mellonics Systems Development, Inc., 300 Sunnyvale Office Center, Sunnyvale, Calif. / computing services / DESCR: design equipment and associated interfaces in the establishment of new concepts / - / - / C27
- Production Systems, Inc., 144 Moody St., Waltham, Mass. 02154 / computer service center / DESCR: business data processing, programming, systems installations. Inventory control, payroll, accounts receivables, payables, sales analysis, production control / - / - / C27
- Recording & Statistical Corp.
- Reeves Instrument Co.
- The Service Bureau Corp., a subsidiary of IBM
- Southwestern Computing Service, Inc.
- Statistical Tabulating Corp.
- Sylvania Electronic Systems
- Systems Data Processing Co.
- Technitrol, Inc.
- Telecomputing Services, Inc.
- U.S. Navy, Aviation Supply Office, Data Processing Div.
- Wolf Research and Development Corp., P. O. Box 36, W. Concord, Mass. / computing services / DESCR: digital computer operations, business and scientific programming; engineering analysis. Applications in data reduction, data retrieval, computer controlled communications / - / - / C27
- C28. COMPUTING SERVICE, DIGITAL (see also "Survey of Computing Services")**
- Applied Data Research, Inc. — see C30
- Booz, Allen & Hamilton Inc. — see C27
- Computer Usage Co., Inc.
- Computing Services, Ltd., Div. of KCS Ltd.
- Data Computing Corp.
- Electronic Engineering Co. of Calif.
- Florida State University
- The I.D.R. Co. (Industrial Data Reduction), 4740 Spruce St., Philadelphia, Pa. / data processing services / DESCR: full line data processing with specialty of publishing industry services / C28
- The ITT Data Processing Center (ITT Data and Information Systems Div.), P. O. Box 285, Paramus, N.J. / EDP services / DESCR: complete range of professional EDP services specializing in real time programming, system analysis, operations research, simulation and programming; supported by IBM 7094, 1401's, data transmission, data plotting, 250 programmers / - / C28
- Mellonics Systems Development, Inc., 300 Sunnyvale Office Center, Sunnyvale, Calif. / digital computing services / DESCR: all phases of services involving programming, operations and selection of optimum equipment to fulfill functional objectives / - / - / C28
- Multnomah Data Processing Center, 430 N.W. 10th Ave., Portland, Ore. 97209 / data processing service / DESCR: commercial data center / - / - / C28
- 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
- Technical Advisors, Inc.
- U.S. Naval Weapons Laboratory, Computation and Analysis Lab., Dahlgren, Va. / electronic computing and data processing services / DESCR: mathematical analysis, research, programming, engineering, computing and data processing services for government and government contractors only / C28
- Wolf Research and Development Corp. — see C27
- C30. CONSULTING SERVICES (see also "Survey of Consulting Services")**
- Abacus Information Management Co.
- ABB Institutet (Scandinavian Automatic Data Processing Institute)
- Advance Data Systems Corp., 2037 Granville Ave., Los Angeles 25, Calif. / revenue control systems / DESCR: consulting and development engineering for systems involving cash transactions / USE: transportation, distribution, and entertainment industries / variable price / C30
- American Data Services, Inc.
- The American University, Center for Technology and Administration
- Applied Data Research, Inc., 759 State Rd., Princeton, N.J. 08540 / Computer Research and Programming / DESCR: research and development of advanced systems; information theory; software systems design; command and control; mathematical models, scientific, business applications; consulting, programming for all digital systems / USE: by government, industry (computer users and manufacturers) and educational institutions / - / C30
- Aries Corp., 7722 Morgan Ave. So., Minneapolis, Minn. 55423 / consulting service / DESCR: problem definition, analysis of requirements, evaluation and recommendation for selection of EDP system. Management consulting in programming, systems, proposal preparation and product line marketing / USE: executive assistance / problem dependent / C30
- Arkay Engineering, Inc.
- Associated Sales Analysts
- Auerbach Corp.
- Automation Engineers
- Booz, Allen & Hamilton Inc. — see C27
- Brandon Applied Systems, Inc., 30 East 42nd St., New York, N.Y. 10017 / consulting services / DESCR: development of technical and sales manuals, software and design evaluation, feasibility evaluation, equipment selection and contract negotiation, installation management and evaluation and complete data processing standards services / - / - / C30
- CBS Laboratories, a Div. of Columbia Broadcasting Systems, Inc.
- C-E-I-R, Inc.
- Computatix, Inc.
- Computer Associates, Inc.
- Computer Consultants Ltd.
- Computer Dynamics Corp., Subsidiary of The Teleregister Corp., 1104 Spring St., Silver Spring, Md. / consulting services / DESCR: EDP application analysis, equipment selection, systems design, programming, installation audit, education, control techniques, including study, analysis, operations research, methods and procedures / - / prices upon request / C30
- Computer Methods Corp., 107 Mamronck Ave., White Plains, N.Y. / consulting and programming services / DESCR: specialists in command and control, real-time processing communication and information systems, simulation techniques commercial application packages, and program and project management / - / - / C30
- Computer Personnel Consultants, Inc., 135 S. LaSalle St., Chicago, Ill. 60603 / consulting services / DESCR: recruitment of and searches for computer and O/R personnel; computer personnel and data processing department organization consulting / USE: to attain and retain well qualified personnel / - / C30
- Cybernetics Inc.
- The Data Center Corp., 3002 Midvale Ave., Los Angeles 34, Calif. / business applications programming, systems design, processing services / DESCR: specialist in accounting and management information systems design, equipment selection, installation planning, 1401/1440/7094 programming / - / - / C30
- Data Processing Consultants, Inc.
- Data Systems Analysts, Inc., 5900 Westfield Ave., Pennsauken, N.J. / system definition for information processing / DESCR: study and analysis of computer applications including feasibility studies, definition of requirements, and equipment selection. Specialists in real-time and communications systems / - / - / C30
- Datrol Corp., 8115 Fenton St., Silver Spring, Md. / electronic data processing consulting / DESCR: programming services for all EDP equipment; real-time systems; information retrieval; intelligence systems; software design and equipment evaluation / - / - / C30
- The Diebold Group, Inc.
- Arnold I. Dumey, 29 Barbary Lane, Roslyn Heights, N.Y. / consultant, data handling / DESCR: consulting on data handling systems and related problems / - / - / C30
- Ebasco Services Inc.
- Editorial Services for Management
- Fedder Electronics Corp.
- Fischbach, McCoach & Associates, Inc.
- Gannett Fleming Corddry and Carpenter, Inc.
- Hollander Associates
- IDC, Ingenieria de Computadoras
- Information International, Inc.
- Information Processing Systems, Inc., 200 W. 57 St., New York, N.Y. 10019 /

broker and consultant in EDP systems / DESCR: selling agent or finder for companies wishing to sell or buy used computer equipment; also consult on types of equipment to be obtained / - / fees quoted on request / C30

J. Kates & Associates, A Div. of KCS Ltd., 20 Spadina Rd., Toronto 4, Ont., Canada / management consulting / DESCR: in operations research, systems and feasibility studies, digital computing / USE: clients in business, industry and government / - / C30

Lutter, Maremont and Co., Inc. Management Assistance Inc. Management Systems Corp.

McDonnell Automation Center -- see C27
Mellonics Systems Development, Inc., 300 Sunnyvale Office Center, Sunnyvale, Calif. / consulting services / DESCR: evaluation, analysis and determination of requirements for satellite feasibility studies, equipment evaluation and software systems / - / - / C30

Mesa Scientific Corp.
Midwest Research Institute

Ray Meyers Corp., 1302 E. Main St., Endicott, N.Y. / consulting services / DESCR: systems development and production programs / - / - / C30

National Computer Analysts, Inc. National Scientific Laboratories, Inc. Simon M. Newman

Pacific Tabulating & Statistical Ltd. John K. Paden Co.

Programmatics Inc., 11753 Wilshire Blvd., Los Angeles, Calif. 90025 / consulting services / DESCR: machine evaluation and comparison, feasibility studies / - / - / C30
The Service Bureau Corp., a subsidiary of IBM

Statistical Tabulating Corp.

Systems Data Processing Co.
Systems Research Laboratories, Inc., 500 Woods Dr., Dayton, Ohio 45432 / consulting, research and development / DESCR: mathematical services for problem solving, studies and programming, Engineering services / USE: for studies, development, design pertaining to scientific data processing systems / - / C30

U.S. Air Force, Computation Div., Data Services Center

Wolf Research and Development Corp., P. O. Box 36, W. Concord, Mass. / 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

Whittaker Corp.
Zator Co.

C31. CONTROLS

Assembly Producers, Inc.
Babcock Electronics Corp.
Boonshaft & Fuchs, Div. of Daystrom Inc. -- see S2A

Carlton Controls Corp.
Control Data Corp.

Data Display, Inc., 1820 Como Ave., St. Paul, Minn. / military command and control systems / DESCR: cathode ray tube display systems with compatible input devices for real-time command and control applications / USE: command and control applications / custom / C31

Electronic Modules Corp., 1949 Green-spring Drive, Timonium, Md. 21093 / process controller / DESCR: sampled-data direct digital control for all variables in a multi-loop process. Utilizes proportional plus reset control equation with independent control of all constants / USE: industrial multi-parameter processes / \$4000 and up / C31

E-Z Sort Systems, Ltd.
Fenwal, Inc., 400 Main St., Ashland, Mass. / fire detection units / DESCR: units combine the advantages of fixed temperature and rate-of-rise detection instruments and provide instant and positive alarm to over temperature / USE: fire sensing / \$25 / C31

Fenwall, Inc., *a / temperature controls / DESCR: complete line of controls including: standard and miniaturized non-indicating Thermo-switch[®]; liquid expansion indicating and non-indicating; thermostat actuated electronic indicating and non-indicating types / USE: precision temperature controlling / \$5 to \$450 / C31

Ferranti Electric, Inc.

Giannini Controls Corp.
The GYREX Corp.
ITT General Controls Inc.
The Walter S. Kraus Co.
Larson Instrument Co., Greenbush Rd., Orangeburg, N.Y. / meter controller and event recorders / DESCR: contactless meter controllers, continuously indicating and controlling any electrical variable, featuring plug-in transistorized amplifier. Recorders, inkless event time 30 and 60 channel direct writing / - / - / C31

Ledex Inc., 123 Webster St., Dayton, Ohio 45402 / solenoids, rotary and linear / DESCR: electromechanical devices to actuate, step, turn, pull, trigger, advance; linear of direct rotary outputs / - / \$3.50 to \$15 / C31

Micro Measurements Corp., 2412 Norwood, Melrose Pk., Ill. / process control components and systems / DESCR: rotary speed and position transducers. Speed monitoring and control systems. Predetermined and batch counting systems. (All digital-transistorized equipment) / USE: textile, steel, paper, can industries, custom service / requires quote / C31

Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N.J. 07631 / data-line level monitor / DESCR: solid state switch with variable threshold control and time duration control, includes power relay contacts for external switching / USE: indicates data line activity or abnormal level variation / \$95 to \$150 / C31

Union Switch & Signal Div. of Westing-house Air Brake Co.
Wiancko Engineering Div., Tamar Electronics, Inc.

C32. CONTROLS, AUTOMATIC

American Electronic Controls Co. -- see C54

Amplifier Corp. of America, 398 Broadway, New York 13, N.Y. / automatic controls / DESCR: control circuits / USE: for special electro-mechanical requirements / - / C32

AmTron Inc., 14631 S. Waverly Ave., Midlothian, Ill. / electronic controls / DESCR: analog and digital control electronic equipment; both custom designed and off-the-shelf equipment; solid state and module construction / USE: for industrial applications / \$1000 to \$30,000 / C32

Assembly Producers, Inc.
Avtron Manufacturing, Inc.

Bailey Meter Co., 39801 Euclid Ave., Wickliffe, Ohio 44092 / 721 Analog control system / DESCR: single and multi-element control systems using solid-state components / USE: to control process variables according to desired conditions / - / C32

Bailey Meter Co., *a / 760 Digital control system / DESCR: control system composed of standardized solid-state modules / USE: to automatically control a plant or process / - / C32

Baldwin Electronics Inc.
Battelle Memorial Institute

Bendix Corp., Industrial Controls Div., 8880 Hubbell Ave., Detroit, Mich. 48228 / Dyna Path Systems / DESCR: special purpose digital computers used to control the motions of machine tools where continuous path control is required / USE: on a wide variety of machine tools / \$30,000 to \$80,000 / C32

Bendix Corp., Industrial Controls Div., *a / Dyna Point Systems / DESCR: special purpose digital computers used to control the motions of machine tools where point to point control is required / USE: on machines used for drilling, boring etc. / \$15,000 to \$40,000 / C32

Brooks Instrument Co., Inc., 407 W. Vine St., Hatfield, Pa. / flow meters / DESCR: variable area, turbine, and positive displacement flow meters / USE: for measurement and control / - / C32

Bulova Watch Co., Inc., Systems and Instruments Div. -- see R12A

California Instruments Corp., 3511 Midway Dr., San Diego, Calif. 92110 / Model 1000 series analog voltage comparator / DESCR: 1 to 10 channels of HI-GO-LO voltage comparison; ±0.1% accuracy; 20 milliseconds comparison time; front panel indicators and output contact closures; internal power and reference voltages supplied / USE: rapid verification of unknown signals to preset limits. Limits changeable; solid state / \$1410 to \$4875 / C32

Canadian Aviation Electronics Ltd. --

see C22A
Consolidated Electrodynamics Corp., 360 Sierra Madre Villa, Pasadena, Calif. 91109 / automatic control equipment / DESCR: includes chromatographs, moisture monitors, mass spectrometers, residual gas analyzers, recorders, and other instruments / USE: for controlling various chemical and petrochemical processes / - / C32

Control Data Corp., Control Systems Div., 4455 Miramar Rd., La Jolla, Calif. / analog controllers / DESCR: transistorized controls designed compatible with digital computers / USE: supervisory computer control / - / C32

Controlmag Laboratories, 2459 Susquehanna Rd., Roslyn, Pa. / digital controls / DESCR: customized digital and other controls and counters for industrial and laboratory applications / USE: to meet any industry need / no limit / C32

Datex Corp.
Delco Radio Div., General Motors Corp., 700 E. Firmin St., Kokomo, Ind. / industrial control systems / DESCR: solid state digital control systems and components: digital circuit cards, compatible accessories and support equipment / USE: machine and process controls, monitors and alarm systems / \$500 and up / C32

Federated Engineering Development Corp., 4630 E. Floral Dr., Los Angeles 22, Calif. / Automation Control / DESCR: control panels and products related to industrial, commercial and some military applications, usually made to order and containing components largely manufactured by others / - / - / C32

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. Also analytical instruments such as pH, chromatography, ORP / - / - / C32

Gilmore Industries Inc.
Hagan Controls Corp., 250 Mt. Lebanon Blvd., Box 11606, Pittsburgh, Pa. 15228 / Optimac / DESCR: transistorized control and instruments. Advanced controller circuitry provides bumpless switching, time constant settings repeatable, error detection, limiting or output limiting may be selected as required / USE: petroleum, chemical, paper, cement, steel industries / price variable to suit systems application / C32

Hagan Controls Corp., *a / PowrAmp / DESCR: precision measuring control devices, including transducers, operational amplifier controllers, electro-hydraulic servos / USE: aerodynamic test facilities, blowdown wind tunnels / price variable to suit particular system / C32

Instrument Society of America
ITT General Controls Inc.
Larson Instrument Co. -- see C31
Ledex Inc. -- see C31, S6

M. Ten Bosch, Inc.
Nash and Harrison Ltd., 1355 Wellington St., Ottawa, Ontario, Canada / EIDeMa / 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, calenders, in paper mills / \$20,000 to \$100,000 / C32

Natel Engineering Co., Inc., 7129 Gerald Ave., Van Nuys, Calif. / amplifier demodulators / DESCR: convert phase sensitive AC signals from transducers to linearly proportional DC voltage or current for control systems, instrumentation or alarm systems / - / \$50 to \$500 / C32

Nortronics, A Div. of Northrop Corp. The Superior Electric Co., 383 Middle St., Bristol, Conn. 06012 / SLO-SYN[®] Preset Indexers / DESCR: controls indexing operations in applications using SLO-SYN Motors for positioning; capable of controlling indexing movements up to 9999 steps per cycle. Speeds adjustable from 4 steps per second / USE: positioning work tables / \$685 to \$835 / C32

Systems Engineering Laboratories, Inc., P. O. Box 9148, 4066 N.E. Fifth Ave., Fort Lauderdale, Fla. 33310 / digital process control systems / DESCR: direct digital control of rolling mills, paper machines, etc. using SEL standard computer / - / - / C32

Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N.J. 07631 / automatic time delay relay / DESCR: activates on first data pulse to switch power relay contacts -- time delay 1 sec. to 30 min. from last pulse / USE: automatic on-off control of

accessory equipment / \$95 to \$150 / C32
Union Switch & Signal Div. of Westing-house Air Brake Co.

C33. CONTROLS, SIGNALLING

Avtron Manufacturing, Inc.
Delco Radio Div., General Motors Corp. -- see C32

Dialight Corp. -- see L1
Instrument Systems Corp., 111 Cantigue Rd., Westbury, L.I., N.Y. / controls, signalling / DESCR: magnetic signalling controls for positioning and routing systems. Use high sensitivity, contactless devices for reliable operation / - / \$25 to \$100 / C33

Natel Engineering Co. -- see C32
Quindar Electronics, Inc. -- see C22
Union Switch & Signal Div. of Westing-house Air Brake Co.

C34. CONTROLS, SORTING & COUNTING

AmTron Inc. -- see C32
Davidson Electronic Development Co., 2211 Peninsula Drive, Erie, Pa. 16505 / component parameter controllers/testers / DESCR: over 4000/hour automation; also high speed (40,000 hour) / USE: manufacturing and testing / \$2000 to \$50,000 / C34

Delco Radio Div., General Motors Corp. -- see C32
Electronics Corp. of America, 1 Memorial Dr., Cambridge, Mass. 02142 / photoswitch / DESCR: photoelectric reflex sortation systems for conveyor applications / USE: in conveyor systems / \$100 to \$300 / C34

Electronic Modules Corp., 1949 Green-spring Dr., Timonium, Md. 21093 / control counter / DESCR: presettable 6-digit up-down counter for accurate control of shearing, measuring, etc. Relay closure, analog output, decimal readout, and tachometer available / USE: precise industrial counting where bi-directional accumulation is required / \$1000 and up / C34

Farmer Electric Products Co., Inc., Tech Circle, Natick, Mass. / photoelectric scanners and controls / DESCR: photoelectric scanners and controls for counting and sorting. Transistorized and tube type control relays. Miniature packaged light sources and photocells / USE: optical limit switch / \$7 to \$125 / C34

IBM, Data Processing Div.
Ledex Inc. -- see S6
Micro Measurements Corp. -- see C31
Nash and Harrison Ltd. -- see C32
Veeder-Root Inc., 70 Sargeant St., Hartford, Conn. 06102 / electronic counters and controls / DESCR: packages and systems with flexibility of design for single control or multiple input; particularly useful in programming, batching, fluid mixing and machine tool operations / - / - / C34

C39. CONVERTERS, INFORMATION
Aero Geo Astro Corp.
Avtron Manufacturing, Inc.
B and F Instruments Inc. -- see D2A
Babcock Electronics Corp.
Burroughs Corp., Electronic Components Div., P.O. Box 1226, Plainfield, N.J. / semiconductor BIPCO[®] modules / DESCR: transistors and diodes in packages usually supplied on a printed circuit board or packaged with other elements; used to drive NIXIE[®] tubes / USE: in electronic circuitry (counting, decoding, etc.) / \$14 to \$50 / C39

Canadian Aviation Electronics Ltd. -- see C22A
Chadwick-Helmuth Co., 111 E. Railroad Ave., Monrovia, Calif. 91016 / "VMS" (vibration measuring system) / DESCR: slow-motion sampling system, creating fixed 1 cps replica of sweeping 10-10,000 cps multi-channel data, for convenient oscillograph recording of distortion, phase, and amplitude / USE: as "electronic gear box" to reduce frequency for monitoring or recording in computation, and servo, acoustic, and vibration testing / about \$500 per channel / C39

Cognitronics Corp., 549 Pleasantville Rd., Briarcliff Manor, N.Y. / audio playback devices / DESCR: digital to audio devices / USE: to serve as computer output and audio monitoring / \$500 to \$50,000 / C39

Cornell-Dubilier Electronics, Div. of Federal Pacific Electric Co.
IMC Magnetics Corp., Western Div.
Librascope Group, General Precision, Inc.
Missouri Research Laboratories, Inc.,

- 2109 Locust St., St. Louis, Mo. 63103 / Model 160 universal logic translator / DESCR: a universal digital interface / USE: to mate incompatible digital systems / \$585 to \$915 / C39
- Nash and Harrison Ltd. Servo Corporation of America, 111 New South Rd., Hicksville, N.Y. / SERVOSLET T synchro equivalent translator / DESCR: solid-state circuitry synchro, resolver, etc. Electrical information to binary information and vice versa. Standard systems provide multichannel operation and 11 bit accuracy / USE: as interface between synchro positioned systems and digital computer command / \$15,000 and up / C39
- Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N.J. 07631 / tone modulators/demodulators / DESCR: solid state oscillator-modulator and demodulator modules. Complete systems available for tone transmission / USE: converts binary data pulse for tone transmission / \$100 to \$1500 / C39
- C40. CONVERTERS, INFORMATION, ANALOG TO DIGITAL**
- Abacus Inc. Adage, Inc., 292 Main St., Cambridge 42, Mass. / VF7-AB megacycle converter / DESCR: an analog to digital converter which digitizes all seven bits plus sign in less than one microsecond / - / \$9000 to \$12,000 / C40
- Adcom Corp., 9732 Cozycroft Ave., Chatsworth, Calif. / Analog/Digital Converters, 200 series / DESCR: 6 through 12 bit high speed converters; conversion rates from 50 KC to 300 KC. Sample and hold circuits standard all units / - / \$3200 to \$5600 / C40
- Airflyte Electronics Co. Auto-Trol Corp., 14500 W. 82 Ave., Arvada, Colo. / digital scaler & high speed printer / DESCR: scalars for digitizing maps, graphs, and other source data. Output via Auto-Trol Printers, punch paper-tape or cards. Scaling adapters for coordinatographs and photogrammetric equipment / USE: EDP source data preparation / \$4000 to \$13,000 / C40
- Baldwin Electronics Inc., 1101 McAlmont St., Little Rock, Ark. / photoelectric shaft position encoders / DESCR: converts a mechanical input in the form of some function on an input shaft angle to a binary digital electrical output / USE: antennas, machine tools, scales, ION particle tracking, gauges / \$245 to \$25,000 / C40
- The Bendix Corp., Eclipse-Pioneer Div. Bowmar Instrument Corp. Burlingame Associates, Ltd. Canadian Aviation Electronics Ltd. -- see C22A
- Canadian Research Institute, 85 Curlew Dr., Don Mills, Ont., Canada / analog to digital converter / DESCR: analog input deflects grey-coded meter scale over photocell matrix / USE: telemetering - digital readout / \$200 to \$450 / C40
- CG Electronics Div., Gulton Industries, Inc. Clifton Precision Products, Div. of Litton Precision Products, Inc. -- see S2A
- Cohu Electronics, Inc., Kin Tel Div., P.O. Box 623, San Diego, Calif. 92112 / analog to digital converters / DESCR: high speed, all solid state, medium speed with mercury-wetted relays, and standard stepping switch type, accuracies to .01%, up to 5-digit readouts available / USE: to measure voltage or component part of data logging system / \$2995 to \$4150 / C40
- Coleman Electronic Systems, 3210 W. Central Ave., Santa Ana, Calif. 92702 / DIGITIZER [®] shaft angle encoder / DESCR: available with absolute decimal digital code, B.C.D., binary or special codes / USE: as a shaft angle encoder / \$485 to \$1200 / C40
- Consolidated Systems Corp. Data Tech, 127 Coolidge Hill Rd., Watertown, Mass. 02172 / INCROSYN shaft position encoders / DESCR: Incremental, magnetic, using a variable reluctance transducing technique. Integral silicon electronics provide CW-CCW pulses and zero on separate lines - to 2¹² pulses per turn / USE: coupled to shaft / \$200 to \$2000 / C40
- Data Tech, *a / VERNISYN shaft position encoder / DESCR: absolute, magnetic, high resolution and accuracy encoder. Serial fine-course output into external readout electronics for coding as required to 2²¹ resolution in 5" diameter / USE: soupled to shaft / \$2000 to \$50,000 / C40
- Digital Equipment Corp., 146 Main St., Maynard, Mass. / analog to digital system modules / DESCR: provide flexible and economical way to design converters meeting unique requirements; same modules can be used to keep pace with changing converter requirements / USE: to convert analog information into digital form / \$900 to \$3000 / C40
- Digital Equipment Corp., *a / general purpose A/D converter & multiplexer / DESCR: Type 138 general purpose converter: six general purpose combinations of conversion accuracy and word length (36 A/D converters in one). For use with it, the Type 139 multiplexer is expandable to 64 channels / USE: to convert analog information into digital form / \$5000 to \$14,000 / C40
- Digital Equipment Corp., *a / Type 142 high speed A/D converter / DESCR: transforms analog signal into a 10-digit binary number in 5 microseconds; maintains a \pm .15% accuracy / USE: to convert analog information into digital form / \$16,400 / C40
- Dymec Div. of Hewlett-Packard Co., 395 Page Mill Rd., Palo Alto, Calif. / digital instrumentation / DESCR: digital instruments and systems for data acquisition measurement, recording, data plotting; digital voltmeters, AC/Ohms converters, amplifiers, input scanners, output devices for computer processing / - / \$4000 to \$30,000 / C40
- Electro Instruments, Inc., 8611 Balboa Ave., San Diego, Calif. 92112 / digital measuring instruments / DESCR: for rapid evaluation of voltages and ratios, resistance, capacitance, impedance / USE: singly or as system basis / \$1095 to \$6500 / C40
- Electro-Mec Instrument Corp. Encoder Div., Litton Precision Products, Inc., 7942 Woodley Ave., Van Nuys, Calif. / analog to digital converters / DESCR: converts shaft angular information to digital through use of a commutator and contacts / USE: in a closed servo loop / - / C40
- EpSCO, Inc. ESS GEE, Inc., 1 Holland Ave., White Plains, N.Y. / A/D converters and synchro/digital solid-state converters / DESCR: various models and options with multiplex capability / - / \$700 to \$10,000 / C40
- Fairchild Space and Defense Systems General Devices, Inc. Giannini Scientific Corp., 185 Dixon Ave., Amityville, N.Y. / Memotizer - analog to digital converter / DESCR: converts shaft positions directly into digital values without translators, amplifiers or buffers. Low break-away torque, digital memory nonambiguous, choice of code / USE: complete link between data source and readout equipment / \$545 up / C40
- Gilmore Industries, Inc. Gulton Industries, Inc. Harmon Kardon, Inc., Data Systems Div., 55 Ames Ct., Plainview, N.Y. / digital volt ohm meters and A/D converters / DESCR: voltage and resistance measurements: 3 digits automatic polarity switching and indication, high speed measurement: internal or external control. Automatic off scale indication and protection / - / \$495 to \$795 / C40
- Hewlett-Packard Co. Instrument Development Labs., Div. of Kollmorgen Corp., 67 Mechanic St., Attleboro, Mass. 02703 / encoders / DESCR: custom design and manufacturing of electro-mechanical computer switching elements and multi-circuit switches for programming and time-sharing of computer inputs / USE: time sharing, binary coding / \$500 to \$5,000 / C40
- Instrument Development Laboratories, Div. of Kollmorgen Corp., 67 Mechanic St., Attleboro, Mass. 02703 / encoders / DESCR: custom design and manufacturing of electro-mechanical computer switching elements and multi-circuit switches for programming and time-sharing of computer inputs / USE: time-sharing, binary coding / \$500 to \$5000 / C40
- Intercontinental Instruments, Inc. IBM, Federal Systems Div. Librascope Group, General Precision, Inc. NAVCOR (Navigation Computer Corp.), Valley Forge Ind. Park, Norristown, Pa. / 2200 series A/D converters / DESCR: full line of 0.05% A/D converters, binary or BCD, unipolar or bipolar / - / \$2250 to \$3000 / C40
- Non-Linear Systems, Inc., P.O. Box 728, Del Mar, Calif. / analog-to-digital converters / DESCR: 3 analog-to-digital converters, 22 digital voltmeters; convert AC or DC voltage, voltage ratios and resistance into digital form at readings from 1/second to 15,000/second / USE: analog-to-digital conversion for computers and control purposes and for automatic data acquisition / \$805 to \$6185 / C40
- North Atlantic Industries, Inc., 200 Terminal Dr., Plainview, N.Y. 11803 / input-output / DESCR: components for AC to digits, digits to AC, including synchro and resolver data. High accuracy to 20 bits with reliable long life operation / - / \$1000 to \$5000 / C40
- Packard Bell Computer, a div. of Packard Bell Electronics Perkin-Elmer Corp., Electronic Products Div. Raytheon Co., Communications and Data Processing Operation Redcor Corp. Reeves Instrument Co. Scientific Data Systems Inc. Sperry Farragut Co., Div. of Sperry Rand Corp., Bristol, Tenn. / analog-to-digital converter / DESCR: solid state 60 or 400 cycle single or double speed synchro inputs. Single speed resolution 0.35 degrees. Accuracy 0.1% of span \pm least significant bit / USE: part of Navy Tactical Data System / \$50,000 to \$75,000 / C40
- Systems Engineering Laboratories, Inc., P. O. Box 9148, 4066 N.E. Fifth Ave., Fort Lauderdale, Fla. 33310 / analog-to-digital converter / DESCR: high speed solid-state converter with resolutions from 8 bits binary to 17 bits BCD at 600 KC bit rate with display / - / - / C40
- Systems Engineering Laboratories, Inc. -- see D2
- Towson Laboratories, Inc., 3500 Parkdale Ave., Baltimore, Md. 21211 / A/D converters and multiplexers / DESCR: generates binary related trial voltages by the repetitive sharing of charge between two equal capacitors, greatly reducing programming operations, thereby simplifying circuitry / USE: to sample analog inputs and encode in binary (serial or parallel output) / upon request / C40
- Vernitron Corp., 50 Gazza Blvd., Farmingdale, L.I., N.Y. / digital encoders / DESCR: analog to digital encoders of the "brush" type - featuring long life / USE: in digital computers / \$700 to \$2000 / C40
- Wang Laboratories, Inc., 836 North St., Tewksbury, Mass. / synchro digital readout / DESCR: receives signals from either single or dual speed control or torque transmitter and provides direct digital in-line readout of position / USE: antenna position readout, reactor control rod position readout, etc. / \$1500 to \$4000 / C40
- C41. CONVERTERS, INFORMATION, CARD TO MAGNETIC TAPE**
- Digitronics Corp., 1 Albertson Ave., Albertson, N.Y. / buffers and converters / DESCR: buffers and converters / USE: for punched cards, paper tape or magnetic tape input and output / - / C41
- Gilmore Industries Inc.
- C42. CONVERTERS, INFORMATION, CARD TO PAPER TAPE**
- Canadian Aviation Electronics Ltd. -- see C22A
- Dennison Manufacturing Co., Machines Systems Div. -- see R8
- Digitronics Corp. -- see C41
- General Instrument Corp., Systematics Div., 3216 West El Segundo Blvd., Hawthorne, Calif. / K177 card to tape converter / DESCR: converts IBM cards to punched paper tape; any 5, 6, 7, or 8-channel code system including ASCII. Removable programming plugboard / USE: computer I/O, data communications, numerical control / \$4150 to \$4500 / C42
- IBM, Federal Systems Div. International Computers and Tabulators Ltd. Librascope Group, General Precision, Inc.
- C43. CONVERTERS, INFORMATION, CODE**
- Canadian Aviation Electronics Ltd. -- see C22A
- Copper Devices Corp., 6 West 18th St., Huntington Sta., N.Y. 11746 / word or code generators / DESCR: tapped wire sonic delay lines with electronics, arranged to generate a serial word (up to 64 bits) at the input of 1 trigger pulse / USE: as a word generator / \$185 to \$320 / C42A
- Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden Tape-to-Tape Code Converter / DESCR: reads on code (5, 6, 7, or 8-channel tape) and simultaneously converts to another; makes various paper tape coding systems compatible / USE: data processing graphotype addressing, teletypesetter, numerical control / - / C42A
- Missouri Research Laboratories, Inc., 2109 Locust St., St. Louis, Mo. 63103 / Model 123 decimal display computer / DESCR: a programmable binary to decimal converter / USE: provides instant decimal display / \$7750 / C42A
- Opto-Electronic Devices, Inc., subsidiary Sigma Instruments, Inc., Pearl St., Braintree, Mass. / optoelectronic translators / DESCR: a selection of opto-electronic integrated circuit modules combining photoconductive elements and incandescent or neon lamps / USE: for translating binary-coded decimal voltage pulses to decimal in counters, time meters, voltmeters / \$16.50 to \$24.50 / C42A
- Trak Electronics Co., Inc. General Devices, Inc. Librascope Group, General Precision, Inc.
- C44. CONVERTERS, INFORMATION, DIGITAL TO ANALOG**
- Abacus Inc. Adcom Corp., 9732 Cozycroft Ave., Chatsworth, Calif. / Digital to Analog Converters, 300 Series / DESCR: 6 through 12 bit digital to analog converters; serial or parallel inputs; buffered outputs / - / \$2000 to \$3500 / C44
- Bowmar Instrument Corp. Canadian Aviation Electronics Ltd. -- see C22A
- CG Electronics Div., Gulton Industries, Inc. Clifton Precision Products, Div. of Litton Precision Products, Inc. -- see S2A
- Digital Equipment Corp., 146 Main St., Maynard, Mass. / digital to analog system modules / DESCR: provide flexible and economical way to design converters meeting unique requirements; same modules can be used to design various converters as assignments require / USE: to convert digital information into analog form / \$200 to \$1500 / C44
- Fairchild Space and Defense Systems General Devices, Inc. General Radio Co. Gulton Industries, Inc. Hewlett-Packard Co. Intercontinental Instruments, Inc. IBM, Federal Systems Div. Librascope Group, General Precision, Inc.
- Milgo Electronic Corp., 7620 N.W. 36th Ave., Miami, Fla. 33147 / Milgo Model 4021M plotting system / DESCR: a digital computer, on-line and/or magnetic tape plotting system for line/point plotting and 50 symbol annotation on a 30" x 30" surface / USE: for graphic plotting of computer data / \$50,000 to \$75,000 / C44
- Non-Linear Systems, Inc., P.O. Box 728, Del Mar, Calif. / NLS Model 16 digital-to-analog converter / DESCR: makes 250,000 digital-to-analog conversions per second. Input range \pm 9999. Output: \pm 10 volts / USE: Model 16 is binary coded decimal; Model 16B is straight binary / \$3085 / C44
- North Atlantic Industries, Inc. -- see C40
- Opto-Electronic Devices, Inc., subsidiary Sigma Instruments, Inc. -- see C42A
- Raytheon Co., Communications and Data Processing Operation Redcor Corp. Reeves Instrument Co. RMS Associates, Div. of Information Displays, Inc., 102 E. Sandford Blvd., Mt. Vernon, N.Y. / digital to analog converter / DESCR: solid-state unit, converts 10 bit parallel to analog 500,000 conversions per second. Single plug-in card / USE: in computer controlled CRT displays / \$325 / C44
- The Superior Electric Co., 363 Middle St., Bristol, Conn. 06012 / SLO-SYN [®] Translators / DESCR: pulse-to-step

Products and Services

- converters designed for use with SLO-SYN Motors connected for incremental stepping / USE: for positioning, indexing or indicating / \$325 to \$375 / C44
- Systems Engineering Laboratories, Inc., P.O. Box 9148, 4066 N.E. Fifth Ave., Fort Lauderdale, Fla. 33310 / digital to analog converters / DESCR: available with various resolutions, outputs and speeds / - / - / C44
- C44A. CONVERTERS, INFORMATION, DIGITAL TO GRAPHIC
- Burroughs Corp., Ann Arbor Lab. -- see V1
- International Telephone & Telegraph Corp. (ITT Industrial Laboratories Div.), 3700 E. Pontiac St., Fort Wayne, Ind. / Questore / DESCR: a key-board unit with associated direct view storage tube and character generation equipment for remote computer interrogation and information retrieval / - / \$2500 to \$3500 / C44A
- C44B. CONVERTERS, INFORMATION, GRAPHIC TO DIGITAL
- Beckman & Whitley, Inc.
International Telephone & Telegraph Corp. -- see C44A
Itek Corporation
- C45. CONVERTERS, INFORMATION, MAGNETIC TAPE TO CARD
- Digitronics Corp. -- see C41
General Dynamics/Electronics, 1400 N. Goodman St., Rochester, N.Y. 14601 / SC-332A Bi-Directional Tape Converter / DESCR: SC-332A converts magnetic tape to tape or paper tape to magnetic tape or paper tape to paper tape with high degree of error control. Any 5, 6, 7, 8 level PT can be accommodated. The MT format is standard IBM. The machine can perform any code conversion, also editing functions / USE: numerical machine tool control, invoice preparation, TWX data conversion, etc. / \$90,000 to \$120,000 / C45
IBM, Federal Systems Div.
Librascope Group, General Precision, Inc.
- C46. CONVERTERS, INFORMATION, MAGNETIC TAPE TO PAPER TAPE
- Digitronics Corp. -- see C41
General Devices, Inc.
Gilmore Industries Inc.
IBM, Federal Systems Div.
Systems Engineering Laboratories, Inc. -- see D2A
Tally Corp., 1310 Mercer St., Seattle, Wash. 98109 / Mark 60 magnetic tape/perforated tape conversion system / DESCR: custom designed, will convert data between magnetic and perforated tape in either direction. Available features include: code translation, tape duplication, data communication, and parity checking / USE: media conversion between magnetic and perforated tape / \$18,000 to \$50,000 / C46
- C46A. CONVERTERS, INFORMATION, MAGNETIC TAPE TO MAGNETIC TAPE
- Digital Electronics Inc., 2200 Shames Drive, Westbury, N.Y. / tape format converter (Model 310) / DESCR: magnetic tape to magnetic tape converter; converts format of any form into IBM format with necessary parity, record gaps and coding / USE: off-line for conversion of one format to another / \$25,000 to \$50,000 / C46A
Digitronics Corp. -- see C41
General Devices, Inc.
IBM, Federal Systems Div.
Systems Engineering Laboratories, Inc. -- see D2A
- C47. CONVERTERS, INFORMATION, PAPER TAPE TO CARD
- Digitronics Corp. -- see C41
General Instrument Corp., Magne-Head Div., 3216 West El Segundo Blvd., Hawthorne, Calif. / C750 tape to card converter / DESCR: converts 5, 6, 7, or 8-channel tape to IBM cards. Any code system, including ASCII. Removable programming pluggard / USE: computer I/O data communications / \$3750 to \$4000 / C47
IBM, Federal Systems Div.
International Computers and Tabulators Ltd.
- Librascope Group, General Precision, Inc.
- C48. CONVERTERS, INFORMATION, PAPER TAPE TO MAGNETIC TAPE
- Digitronics Corp. -- see C41
General Devices, Inc.
General Dynamics/Electronics -- see C45
IBM, Federal Systems Div.
Tally Corp. -- see C46
- C50. CORES
- Ferroxcube Corp. of America
Lockheed Electronics Co.
Magnetics Inc.
- C51. CORES, FERRITE
- Burroughs Corp., Electronic Components Div., P.O. Box 1226, Plainfield, N.J. / ferrite cores / DESCR: complete capability from .250 inches; .020 inches outside diameter at switching speeds up to 250 nanoseconds / USE: memory stack fabrication / \$6.25/M to \$50/M / C51
Indiana General Corp., Electronics Div., Kearsbey, N.J. / memory cores / - / USE: storage device for EDP equipment / 1¢ each core and up / C51
Suprex Electronics Corp.
- C52. CORES, MAGNETIC
- Scientific Data Systems Inc.
- C53. COUNTERS
- Advance Electronics, Ltd. -- see C25
Beckman Instruments, Inc., Berkeley Division, 2200 Wright Ave., Richmond, Calif. 94804 / counters / DESCR: analog and digital data systems and components; line regulators; instrumentation for counting, frequency and time measuring; digital voltage measuring; and digital and analog recording / - / - / C53
Engineered Electronics Co.
The A. W. Hayden Co., 232 N. Elm St., Waterbury, Conn. / Elapsed time indicators / DESCR: electromechanical elapsed time indicators, AC and governed motor driven designed to provide hours, minutes, tenths of minutes and seconds by dial face or digital readouts / USE: in missile launching, military/commercial airborne equipment, computer data processing systems / C53
Hewlett-Packard Co.
ITT General Controls Inc.
Micro Measurements Corp., 2412 Norwood, Melrose Pk., Ill. / counters, electronic / DESCR: solid state, plug in boards, in line Nixie and E. L. Readout. Models available to 2 mc. Standard models and custom service available / USE: electronic counting and timing / \$595 to \$1095 / C53
Non-Linear Systems, Inc.
Perkin-Elmer Corp., Electronic Products Div.
Raytheon Co., Industrial Components Div.
- C54. COUNTERS, ELECTRONIC
- Advance Electronics, Ltd. -- see C25
American Electronic Controls Co., 2450 Susquehanna, Roslyn, Pa. / special digital counters / DESCR: forward and backward counters adapted to particular requirements of industry, including control functions / \$100 to \$10,000 / C54
AMP Inc. -- see C9
AmTron Inc. -- see C32
Anadex Instruments Inc., 7833 Haskell Ave., Van Nuys, Calif. / electronic counters / DESCR: solid state counters, timers, preset counter-controllers, bi-directional counters and many special adaptations / USE: for industrial process control and military applications / \$400 to \$1200 / C54
Bowmar Instrument Corp.
Burroughs Corp., Electronic Components Div. -- see S7
Chadwick-Helmuth Co.
Chrono-log Corp., 2583 W. Chester Pike, Broomall, Pa. 19008 / electronic counters / DESCR: electronic counters, clocks and calendars with digital output compatible with computer inputs; counting rates to 10,000 cps; time resolutions to 100 microseconds / USE: as data input
- units and timers for computers / \$1000 to \$4000 / C54
Controlmag Laboratories
Data Tech, 127 Coolidge Hill Rd., Watertown, Mass. 02172 / bi-directional counter / DESCR: reversible electronic counter in 5kc, 50kc, and 100kc models with reset to zero. Options include reference preset, \pm count up from zero, universal input, square wave direction logic, preset output / USE: accumulate add-subtract pulses - position readout / \$395 to \$2000 / C54
Electronic Modules Corp. -- see C34
Hewlett-Packard Co.
Lexus Inc. -- see C31
Librascope Group, General Precision, Inc.
Micro Measurement Corp. -- see C53
Quindar Electronics, Inc., 5 Lawrence St., Bloomfield, N.J. / QAC-Accumulator / DESCR: pulse storage device, accumulates either voltage or dry contact pulses and holds information / USE: for BCD readout "on-the-fly" with no ambiguity; suitable for use with QSS-1 for remote transmission / - / C54
Racal Instruments Ltd., Dukes Ride, Crowthorne, Berks, England / universal counter/timer Type SA535 / DESCR: provides 6-digit display of frequency/period (0-1.2Mc/s time interval, random total / - / \$554 f.o.b. London / C54
Veeder-Root Inc. -- see C34
Wang Laboratories, Inc., 836 North St., Tewksbury, Mass. / machine tool readout equipment / DESCR: provides an encoder (to be applied by customer to either a lead screw or rack and pinion) and bi-directional counter with presets and zero reset for measuring 2 and 4 axis positions / \$1000 to \$3950 / C54
Wang Laboratories, Inc., *a / Model 2019 universal preset counter / DESCR: 300 kc counter for frequency, rate, ratio, period, time interval, count and preset gate. Preset numbers can be set from 1 to 100,000 giving normalized results in units measured / USE: input pulses from .1 to 10 v / \$1250 / C54
- C55. COUNTERS, FREQUENCY
- Advance Electronics, Ltd. -- see C25
American Electronic Controls Co. -- see C54
Controlmag Laboratories
Durant Mfg. Co., 600 N. Cass St., Milwaukee, Wisc. 53201 / electric or impulse counters / DESCR: complete line of electrically actuated counters providing accurate counts at high, low, and intermediate speeds. Choice of mounting, size, speed and reset / USE: as a component for instrumentation and automation / \$10 to \$50 / C55
Eldorado Electronics, 601 Chalomar Rd., Concord, Calif. / Model 520 frequency-ratio counter / DESCR: 300 kc range, powerline time base, 4 or 5 decades, Nixie readout, 100 mv input sensitivity, solid-state, display storage, gate times 0.1, 1.0 and 10 seconds / USE: measures pulse or frequency data to 300 kc, also ratio / \$975 (4 decades); extra decades, \$100 / C55
Eldorado Electronics, *2 / Model 538 frequency/period/ratio translator / DESCR: 2.5 Mc range, 100kc crystal timebase, preset time base, 5 or 6 decades, Nixie readout, 100 mv input sensitivity, solid-state, display storage, extended preset operation / USE: converts input signal to physical units such as; RPM, GPM, feet/sec etc., also measures frequency, period and ratio / \$1450 (5 decades); extra decade, \$100 / C55
Eldorado Electronics, *a / Model 735 universal counter / DESCR: 3Mc range, functions are frequency, totalizing, period 10⁷ sec., multiple period 10⁷ periods, pulse width 10⁷ sec., time interval 10⁷ sec., ratio A/B, multiple ratio 10⁷, 1.0mc crystal oscillator / USE: universal counter for all laboratory and systems applications / \$1795 (6 decades) / C55
Eldorado Electronics, *a / Model 910 frequency counter / DESCR: range 110 Mc. crystal osc 1.0 mc. 1 part 108, Nixie readout, input sensitivity 100 mv 50 ohms, double pulse resolution 7 nanoseconds, gated time base to 10⁷, overflow indication, solid-state / USE: measures pulse or frequency data directly to 110Mc without prescaling or heterodyning / \$3450 (8 decades) / C55
Hewlett-Packard Co.
Micro Measurement Corp. -- see C53
- Racal Instruments Ltd., Dukes Ride, Crowthorne, Berks, England / digital frequency motor Type SA520 / DESCR: fully portable; provides 4 digit display of frequency/period in range 0-300kc/s / - / \$358 f.o.b. London / C55
- C56. COUNTERS, MECHANICAL
- Advance Electronics, Ltd. -- see C25
Bowmar Instrument Corp.
Durant Mfg. Co., 600 N. Cass St., Milwaukee, Wisc. 53201 / digital readout instrument counters / DESCR: standard, stocked, open framed mechanical counters available in three wheel sizes; choice of mounting, number of figures, side of drive and rotation for instrumentation use / USE: as a component in any instrument requiring readout / \$5 to \$50 / C56
The A. W. Hayden Co. -- see C53
Photocon Research Products, 421 N. Altadena Dr., Pasadena, Calif. 91107 / clocks, timers and counters / DESCR: electromechanical counters, clocks, and timers / USE: for industrial and military controls in missiles, space vehicles, and satellites / \$70 to \$1000 / C56
Veeder-Root Inc., 70 Sargeant St., Hartford, Conn. 06102 / Mechanical counters / DESCR: mechanically-actuated precision devices for counting and controlling; wide variety of configurations and optional features to meet specific requirements for speed and inputs / - / C56
- C58. COURSES BY MAIL (COMPUTER FIELD)
- Berkeley Enterprises, Inc.
Business Electronics Div., International Accountants Society, Inc., 209 W. Jackson Blvd., Chicago, Ill. 60606 / home study programming training / DESCR: one course covering Programming Theory using composite computer as instructional device; previous experience or mathematics not required / USE: training of programming staffs, background, train persons affected by computer installation / \$250 / C58
Business Electronics Div., International Accountants Society, Inc., *a / management control course / DESCR: home study course provides communication link between accounting and management, stresses information flow and control techniques / USE: individual or group enrollment / \$120 / C58
ENTELEX Inc. -- see E1
Philco Technological Center -- see E1
- D1. DATA PROCESSING MACHINERY
- Adcom Corp., 9732 Cozycroft Ave., Chatsworth, Calif. / Conversion Systems / DESCR: complete systems for data acquisition, conversion and control; hybrid interface equipment; simulator memory systems / - / \$10,000 to \$300,000 / D1
Advance Data Systems Corp., 2037 Grandville Ave., Los Angeles 25, Calif. / ADS-08 Program Addressable Clock / DESCR: digital interface into the 7090/94 used to connect on line peripheral equipment into the IBM 7090/94 / USE: digital interface / \$15,000 to \$16,000 / D1
Aero Geo Astro Corp.
Automation Engineers
Bryant Computer Products -- see M2
The Bunker-Ramo Corp.
Collins Radio Co., Information Science Center
Consolidated Electrodynamics Corp.
Control Data Corp.
Contronics, Inc. -- see C24A
Data Processing Equipment Exchange Co.
Digitronics Corp., 1 Albertson Ave., Albertson, N.Y. / Dial-o-verter Terminals / DESCR: Dial-o-verter punched card, paper tape and magnetic tape terminals with speeds up to 240,000 words/minute / USE: for transmission of data over regular telephone lines / - / D1
ESS GEF, Inc., 1 Holland Ave., White Plains, N.Y. / digital equipments and systems / DESCR: analog data acquisition and processing systems and computer peripheral equipments analysis, design and fabrication / USE: automation applications / \$26 to \$75,000 / D1
Filtron Co. Inc., 131-15 Fowler Ave., Flushing 55, N.Y. / RFI shielded enclosures / DESCR: Solid panel, RFI shielded enclosures providing attenuation in excess of 100 db from 14kc to 10 Gc, modular design, weld

nut construction / USE: research, testing and production control for security applications / \$250 upward depending on size / D1

Filtron Co., Inc., *a / RFI testing service / DESCR: RFI testing and certification by government approved laboratory to meet military specifications / USE: security applications requiring testing and certification for RFI / \$120 to \$180 per 8-hour day depending on frequency / D1

Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Add-Punch / DESCR: punched tape adding-listing machine, ten key input keyboard. Performs regular adding machine functions and simultaneously punches tape for subsequent processing / USE: accounting and other data processing / - / D1

Friden, Inc., *a / CTP Computer / DESCR: automatic writing-computing machine. Reads and produces 8-channel punched tape, edge-punched cards, or tab cards from one or more input/output sources, prepares documents with all necessary calculations. Interchangeable pre-wired program panels permit quick switching of applications. Has facilities for connection of auxiliary input/output units / USE: billing and other data processing / - / D1

Friden, Inc., *a / CTP3 and CTP4 Computers / DESCR: same as CTP Computer except that these models read and punch 5-channel tape. CTP3 has a 3-bank keyboard; CTP4 has a 4-bank keyboard / USE: billing and other data processing / - / D1

Friden, Inc., *a / Friden Selectadata / DESCR: searches punched tape for pre-selected data which is then read out on Friden Flexwriter or Computer. Also provides program control / USE: general data processing / - / D1

Friden, Inc., *a / Friden 6010 Electronic Computer / DESCR: small scale, solid state computer for business applications requiring high-speed computation and descriptive alphabetic information / USE: billing, payroll, statistical quality control, etc. / - / D1

Friden, Inc., *a / Programmatic Flexwriter / DESCR: automatic writing machine. Reads punched tape, edge-punched cards, or tab cards from one or more input sources, produces documents, punches new tape or cards for further processing. Has facilities for connection of auxiliary input-output units. Automates preparation of original business documents and subsequent reports / USE: general data processing / - / D1

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. Overall system design and programming for on and off line computers, sensors and output devices / USE: variety of information handling systems involving analog and digital processes / varied / D1

Geo Space Corporation, 5803 Glenmont Drive, Houston, Tex. 77036 / Custom data processing systems for geophysical data / DESCR: complete systems and components, consisting of input-output magnetic tape drums, photographic cross section plotters, NMO correctors and data compositing units / USE: to reduce seismic field data to corrected cross sections / \$10,000 to \$250,000 / D1

The GYREX Corp.

Hagan Controls Corp., 250 Mt. Lebanon Blvd., Box 11606, Pittsburgh, Pa. 15228 / Data logger / DESCR: scans and logs analog voltages, thermocouple emfs, resistance bulbs / USE: steel, utility, nuclear, water plants / price variable to suit particular system / D1

Harmon Kardon, Inc., Data Systems Div. -- see C40

Hughes Aircraft Co., Ground Systems Group, P. O. Box 3310, Fullerton, Calif. / DESCR: Digital data processing systems, general purpose computing systems, materials development, microelectronics, RMS (systems analysis, integration and management) / - / D1

Instrument Systems Corp., 111 Cantiague Rd., Westbury, L.I., N.Y. / analog magnetic storage drums / DESCR: variable speed used to achieve adjustable delay. Capable of low frequency response / USE: signal processing, correlation, storage, delay / \$1000 up / D1

IBM, Data Processing Div.

IBM, Federal Systems Div.

A. Kimball Co., Div. of Litton Industries, Farmingdale, N.Y. 11735 / Kimball hard pack / DESCR: converts data from tags into punched cards quickly, accurately for increased computer input, lower punch card and handling cost, greater efficiency. Ideal for systematic reorder, merchandise control, inventory control, etc. / USE: designed to take information from as many as 4 tag readers and feed into 1 summary punch / - / D1

A. Kimball Co., Div. of Litton Industries, *a / Kimball high-speed punched tag reader / DESCR: ability to transmit Kimball tag data at high speeds directly to computers, eliminating intermediate step of punch card and/or punch tag conversion / USE: compatible with virtually every modern electronic computer system equipped with magnetic tape or random access files / - / D1

A. Kimball Co., Div. of Litton Industries, *a / Kimball PM "75" (Punch Marking system) / DESCR: produces Kimball punch tags containing machine language which can be converted by Kimball Tag Readers into punch card or tape for processing in conventional tabulating or computer system / USE: to eliminate costly key punching / - / D1

Librascope Group, General Precision, Inc.

Moore Associates, Inc. The National Cash Register Co. NAVCOR (Navigation Computer Corp.), Valley Forge Ind. Park, Norristown, Pa. / MCL-100 data logger / DESCR: translates up to 100 parallel analog inputs into both digital and analog data which can be read out to mag tape, printer, oscilloscope, display, others / USE: record transient analog data for analysis / \$30K to \$55K / D1

Non-Linear Systems, Inc., P. O. Box 720, Del Mar, Calif. / Automatic digital data acquisition system / DESCR: standard or custom built systems that automatically scan, measure, record and compare a wide range of voltages and resistances / - / \$3695 to \$39,000 / D1

Sperry Gyroscope Co., Div. of Sperry Rand Corp.

Tally Corp., 1310 Mercer St., Seattle, Wash. 98109 / Mark 45/51 typing systems / DESCR: read and type out data from perforated tape, prepare perforated tape from keyboard entry, duplicate tape, communicate with other systems with print out of data received / USE: for keyboard entry to, or print out from, perforated tape / \$6615 to \$11,810 / D1

Technitrol, Inc.

Tempo Instrument Inc.

UNIVAC Div. of Sperry Rand Corp.

UNIVAC Twin Cities Operations of Sperry Rand Corp.

URS Corp.

Whittaker Corp.

D2. DATA RECORDING EQUIPMENT

Addo-X, Inc., ADP Div., 270 Park Ave., New York 17, N.Y. / Data recording equipment / DESCR: 10 key tabulating carriage adding or accounting machine link to paper tape punch. Flexible programming system. Card punch link. Electrical input and output machines / USE: data capture equipment / \$2500 to \$4000 / D2

Ardrol Electronics, Inc., 116 N. 7th St., Philadelphia 6, Pa. / recorder/printer/plotter / DESCR: high speed digital recording system capable of recording 2500 lines/sec and/or up to 20,000 points/sec in plotting / USE: data recording on or off line without buffer / \$2500 to \$25,000 / D2

All American Engineering Co. The Bristol Co.

Bryant Computer Products -- see M2

Burroughs Corp., Ann Arbor Lab. -- see V1

California Computer Products, Inc. Chadwick-Helmuth Co. -- see C40

Colorado Instruments, Inc. -- see K1

Consolidated Electrodynamics Corp., 360 Sierra Madre Villa, Pasadena, Calif. 91109 / data recorders / DESCR: include several types of recording oscillographs, strip-chart recorders, magnetic tape recorders/reproducers, indicating controllers, vibration monitors, and other instruments / USE: for recording data / - / D2

Consolidated Systems Corp. Data Display, Inc., 1820 Como Ave., St. Paul, Minn. / dd 80 High Speed Data Recorder / DESCR: records al-

phanumeric and graphic computer output on 35 mm microfilm at on line speeds of 110,000 characters or 30 pages per second. May be operated from optional tape drive units / USE: high speed billing, PERT charts, mechanical drawings and archival recording of output / \$125,000 with a standard system / D2

Datex Corp.

Electro Instruments, Inc., 8611 Balboa Ave., San Diego, Calif. 92112 / measurement control systems / DESCR: scans, measures and records information in digital form for analysis and/or control / USE: inspection or check-out device for most types of military and industrial processes / \$8000 to \$100,000 / D2

Farrington Electronics, Inc., Shirley Industrial Park, Springfield, Va. / Source data recording - various models / DESCR: imprints fixed and variable data on forms of varying size and thickness for optical character reading conversion to machine language / USE: wide range of applications using embossed plastic cards and lever set variable data / \$25 to \$185 / D2

Fischer & Porter Co.

The Foxboro Co., 38 Neponset Ave., Foxboro, Mass. 02035 / data logging computers / DESCR: acquire, compute, and log both analog and digital data / \$75,000 to \$150,000 / D2

General Dynamics/Electronics, 3302 Pacific Highway, P. O. Box 127, San Diego 12, Calif. / S-C 4020 computer recorder / DESCR: converts and records digital output in combinations of curves, vectors, and characters at speeds consistent with large-scale computers / USE: on-line or off-line with digital computer / - / D2

General Instrument Corp., Magne-Head Div., 3216 West El Segundo Blvd., Hawthorne, Calif. / D875 Keypunch/verifier / DESCR: keyboard tape punching and verifying system. Speed: to 20 characters per second. Any 5, 6, 7, or 8-channel code / USE: prepare input for computers, data transmission system / \$2900 to \$5000 / D2

The Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex. / Developer / DESCR: records from CRT or 20 galvanometers. Automatically processes 16 mm film and displays with 10x magnification / USE: record motion to 10-7 mm / \$8000 to \$10,000 / D2

The Geotechnical Corp. *a / Helicorder / DESCR: direct-writing drum recorder. DC-24 cps. Records 72 data-hours on a 1' x 3' chart / USE: record motion down to 10-7 mm / \$1575 to \$2100 / D2

Gulton Industries, Inc.

Hagan Controls Corp. -- see A4, C32, D1, S1

Harmon Kardon, Inc., Data Systems Div. -- see C40

Hewlett-Packard Co.

Houston Instrument Corp.

Information For Industry, Inc., 1000 Connecticut Ave., N.W., Washington, D.C. / Unitem magnetic tape index / DESCR: over 5,000,000 references to 128,134 U.S. chemically related patents being used on all presently manufactured computers / USE: by research, development / \$5900 / D2

IBM, Federal Systems Div.

International Computers and Tabulators Ltd.

Kinologic Corp.

Leach Corp., 405 Huntington Dr., San Marino, Calif. / magnetic tape recorder/reproducer / DESCR: small, lightweight tape recorders require minimum power to operate. Analog, digital and FM recording techniques are available as well as wide selection of tape speeds / USE: record and reproduce data / \$2000 to \$25,000 / D2

Leeds & Northrup Co.

Mincom Div., Minnesota Mining and Manufacturing Co., 300 S. Lewis Rd., Camarillo, Calif. / TIDAX / DESCR: 7 or 14 track record/reproduce equipment features solid state signal electronics, 400 cps to 1.5 mc response, and automatic equalization for all speeds / USE: with telemetry equipment / varies with requirement / D2

Non-Linear Systems, Inc.

Omnitronics, Inc. -- see P10

Pacific Electro Magnetics Co., 942 Commercial St., Palo Alto, Calif. / PEMCO model 110 ultra-portable instrumentation tape recorder / DESCR: smallest general purpose data recorder available, combines lab performance with extreme portability and ruggedness, available for 1/4", 1/2" or 1" tape, DC to 100 kc data bandwidth, AC or DC power including rechargeable power pack / USE: remote

and vehicle-borne data acquisition / \$4500 to \$12,000 / D2

Perkin-Elmer Corp., Electronic Products Div.

Reeves Instrument Co. Sanborn Company

Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / magnetic tape recorder/reproducers / DESCR: analog magnetic tape recording/reproducing systems including standard general purpose types and time delay systems. Products also include automatic attenuators for data recording / USE: telemetry, laboratory, computer systems (A to D) / \$15,000 to \$80,000 / D2

Schaevitz-Hytrac Corp.

S-I Electronics, Inc. -- see T2

STRAZA INDUSTRIES, ELECTRONICS DIV., 790 Greenfield Drive, El Cajon, Calif. / HIGH-SPEED SYMBOL AND LINE GENERATORS AND MICROFILM PRINTER / DESCR: high-speed output devices receiving digital information; information is presented on CRT and filmed on 16mm or 35mm film and/or 8" x 11" hard copy / USE: receives digital information from computers and magnetic tape and translates it into human language / 11-64 Symbol Generator, \$8860; 11-128 Symbol Generator, \$11,400; #52 Line Generator, \$18,000; Microfilm Printer, not established / D2

Systems Engineering Laboratories, Inc., P. O. Box 9148, 4066 N.E. Fifth Ave., Fort Lauderdale, Fla. 33310 / MOBIDAC (Mobile Data Acquisition System) / DESCR: accepts up to 100 inputs directly from transducers at levels as low as ±4 mv full scale, digitizes and records on magnetic tape in computer format / - / D2

Systems Engineering Laboratories, Inc., *a / SEL 600 System / DESCR: high speed, solid-state data acquisition system to scan up to hundreds of high level and low level inputs, digitize, and record data on magnetic tape, paper tape, or cards / - / D2

Techni-Rite Electronics, Inc., 65 Centerville Rd., Warwick, R.I. / data recording equipment / DESCR: direct writing inkless recorders and oscillographs of all types including Event, Analog, Ana-Vent, and those for use as Direct Read-Out for Analog computers / USE: direct read-out for analog computers / \$5000 to \$7000 / D2

TELaughtograph Corp. -- see F1

Tele-Dynamics Div., American Bosch Arma Corp., 5000 Parkside Ave., Philadelphia, Pa. / Electro-Static recorders and readers / DESCR: Electro-static record/read equipment may be used as an input/output device for computer use. Up to 1000 cps enables increased utilization of computers over punch tape inputs / USE: as input/output printer and reader / \$10,000 to \$25,000 / D2

Wang Laboratories, Inc., 836 North St., Tewksbury, Mass. / INДАР (Incremental data recording equipment) / DESCR: records relationship between 2 or more variables on punched tape in incremental form for later processing on a computer / USE: either shaft or voltage to digital conversion / \$7000 to \$14,000 / D2

Westronics, Inc., 3605 McCart St., P. O. Box 11250, Berry St. Sta., Ft. Worth 10, Tex. / Indicating data logger, model PDR / DESCR: null-balance measuring circuit provides best possible accuracy, both analog and digital indication scales as well as direct digital printout of data / USE: logging of numerous inputs / \$2250 up / D2

Wiancko Engineering Div., Tamar Electronics, Inc.

D2A. DATA REDUCTION EQUIPMENT

B and F Instruments Inc., 3644 North Lawrence St., Philadelphia, Pa. / data conditioning equipment / DESCR: reduces primary sensing elements information to common calibrated computer logic, accepts inputs from strain gages, thermocouples, potentiometers, EMF sources / USE: in data acquisition systems / \$90/channel to \$250/channel / D2A

Benson-Lachner Corp. Chadwick-Helmuth Co. -- see C40

Cohu Electronics, Inc., Kin Tel Div., P. O. Box 623, San Diego, Calif. 92112 / data reduction equipment / DESCR: four basic systems reduces

multi-channel input information into digital form for either visual or recorded data on tape, typewriter, or printer. Accuracy to .01% / USE: for automated control of varied manufacturing processes / \$7000 to \$13,445 / D2A

Consolidated Electrodynamics Corp. Fischer & Porter Co., Gerber Scientific Instrument Co. Gulton Industries, Inc. Hagan Controls Corp. -- see A4, C32, D1, S1

Harmon Kardon, Inc., Data Systems Div. -- see C40

Information International, Inc., 200 Sixth St., Cambridge, Mass. / film reading / DESCR: development and manufacture of fully automatic computer film reading systems for reading scientific data recorded on film. Services available for reading and processing such film / USE: reduction of scientific data / \$100,000 to \$450,000 / D2A

IBM, Federal Systems Div. Systems Engineering Laboratories, Inc., P. O. Box 9148, 4066 N.E. Fifth Ave., 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

Systron-Donner Corp., 888 Galindo St., Concord, Calif. 94520 / SYSTRAC Data Acquisition Systems / DESCR: multi-channel systems designed to accept inputs from thermocouples, strain gauges and other transducers / USE: provide quick look and direct measurements in engineering units with various output options / \$11,700 to \$150,000 / D2A

TRW Space Technology Laboratories Wang Laboratories, Inc., 836 North St., Tewksbury, Mass. / ADPREP (Analog data preparation unit for digital computation) / DESCR: 10 point scanner with integrating digital voltmeter (.1%) and output to either a digital printer or high speed paper tape punch / USE: voltage inputs with all points in same range (.1/10/100 volts) / \$4950 to \$5400 / D2A

D3. DELAY LINES (COMPUTER TYPES)

Andersen Laboratories, Inc., 501 New Park Ave., W. Hartford, Conn. / research and manufacture / DESCR: all types of delay lines and associated electronics including quartz and glass, electromagnetic, magnetostrictive and direct torsional using piezoelectric and magnetostrictive transducers / USE: memory and pulsing systems / - / D3

The Artronic Instrument Co., 11232 Triangle Lane, Silver Spring, Md. 20902 / delay lines / DESCR: epoxy encapsulated military grade, lumped constant units; nanosecond to millisecond delay times; miniature lines a specialty. Printed circuit and conventional mounting / USE: to delay signals in digital and analog circuits / \$15 to \$165 / D3

Beckman Instruments, Inc., Helipot Div. Richard D. Brew and Co., Inc. Columbia Technical Corp., 24-30 Brooklyn-Queens Expressway West, Woodside, N.Y. 11377 / delay lines / DESCR: electromagnet passive delay lines in calibrated magnetic core delay cable, distributed constant, lumped constant, mechanically variable or electrically variable designs / USE: to delay pulses / \$2 to \$2000 / D3

Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. / soniline / DESCR: magnetostrictive delay line 4-20,000 usec frequency to 3mc / USE: digital storage equipment, time compression / - / D3

Computer Devices Corp., 6 West 18th St., Huntington Sta., N.Y. 11746 / delay lines / DESCR: delay modules -- small for P.C. mounting in the nanosecond and microsecond delay range. Extra small variable delay units for circuit trim / USE: timing, holding, trimming in circuits / \$2 to \$100 / D3

Consolidated Avionics Corp. Cornell-Dubilier Electronics, Div. of Federal Pacific Electric Co.

Corning Electronics, Corning Glass Works

Corning Glass Works -- see C26 Deltime, Inc., 225 Hoyt St., Mamaronock, N.Y. / data storage sonic delay lines / DESCR: magnetostrictive delay line modules incorporating all pre- and post-signal conditioning for data storage / USE: data storage / \$30 up / D3

Electron Ohio, Inc. El-Rad Manufacturing Co., 4300 Cali-

fornia Ave., Chicago 18, Ill. / delay lines / DESCR: compact lines for printed circuit insertion; available with or without tapes; new designs developed for new applications / USE: pulse delay / \$2 to \$200 / D3

ESC Electronics Corp., 534 Bergen Blvd., Palisades Park, N.J. / electromagnetostrictive delay lines, filters and pulse forming networks / - / - / - / D3

Forbes and Wagner Inc., Silver Creek, N.Y. / delay lines / DESCR: distributed and lumped constant delay lines - fast rise time - delays in the nanosecond region / USE: In sold state circuitry / \$2 to \$25 / D3

General Instrument Corp., Defense and Engineering Products Group, 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 and missiles and aircraft / \$100 to \$3000 / D3

Librascope Group, General Precision, Inc. PCA Electronics, Inc. -- see T13 Polyphase Instrument Co. Raytheon Co., Industrial Components Div. F. W. Sickles Div., General Instrument Corp.

Sprague Electric Co. Technitrol, Inc. Tempo Instrument Inc. Torotel, Inc. United Transformer Corp., 150 Varick St., New York, N.Y. 10013 / lumped constant delay lines / DESCR: custom made to customer's particular specifications / USE: in delay circuits / depending on design / D3

D4. DESK CALCULATORS

Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / calculating machines / DESCR: full line of desk calculators including Model SVJ (automatic short-cut multiplication, squaring) and Model SRQ (automatic square root and automatic squaring) / USE: solving mathematical problems / - / D4

D6. DIFFERENTIAL ANALYZERS

Autonetics, a Division of North American Aviation, Inc. IBM, Federal Systems Div. Librascope Group, General Precision, Inc.

D11. DISCS, MAGNETIC

Bryant Computer Products -- see M2 Digital Development Corp. -- see M2 IBM, Federal Systems Div. Librascope Group, General Precision, Inc.

D12. DRUMS, MAGNETIC

Bryant Computer Products -- see M2 Cognitronics Corp., 549 Pleasantville Rd., Briarcliff Manor, N.Y. / magnetic drum systems / DESCR: magnetic drum systems, complete with electronics / - / \$5000 to \$35,000 / D12

Digital Development Corp. -- see M2 General Instrument Corp., Wagne-Head Div., 3216 West El Segundo Blvd., Hawthorne, Calif. / magnetic tape and drum heads, magnetic memory drums and memory systems / DESCR: high precision, analog or digital magnetic tape and drum heads. Metallized coated memory drums and input/output electronics to either commercial or military specifications / USE: as memory storage in computers and data systems / by quotation / D12

IBM, Federal Systems Div. International Computers and Tabulators Ltd. Librascope Group, General Precision Inc.

E0. ECONOMIC RESEARCH

Abacus Information Management Co. Operations Research of Tulsa, P.O. Box 800, Tulsa, Okla. 74101 / inventory systems / DESCR: EOQ systems; economic purchasing, distribution patterns, with pooling; safety stock and leadtime standards, machine conversions / USE: to optimize service and minimize capital and expense / \$3500 to \$70,000 per system / E0

The Simulatics Corp.

E1. EDUCATION

ADB Institutet (Scandinavian Automatic Data Processing Institute) The American University, Center for Technology and Administration Berkeley Enterprises, Inc. Belock Instrument Corp.

Brandon Applied Systems, Inc., 30 East 42nd St., New York, N.Y. 10017 / educational services / DESCR: organizing and administering technical seminars, workshops and advanced in-house training. Sponsor technical courses: "Management Standards for Data Processing" and "IBM 1400 Series Installation Management" / - / - / E1

Business Electronics Div., International Accountants Society, Inc. -- see C50

Duke University, Digital Computing Lab.

Electronic Data Service, Inc. ENTELEK Inc., 42 Pleasant St., Newburyport, Mass. 01950 / courses / DESCR: programmed self-instructional courses for computer-based management: Sales Forecasting, Inventory Management, PERT and CPM, Probability and Statistics, also Value Engineering Ratio Analysis of Financial Statements, Supply and Demand, Income Determination, and custom programmed instruction services. Write for complete course descriptions / USE: continuing management and technical education / \$6 to \$32.50 / E1

Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden Educational Center / DESCR: courses in data processing and related fields. No fee. For information write Friden Educational Center, 31 Prince St., Rochester, N.Y. or consult local Friden office / USE: training in data processing / - / E1

Management Science Training Institute Mellonics Systems Development, Inc., 300 Sunnyvale Office Center, Sunnyvale, Calif. / audio/visual services / DESCR: any environment requiring indoctrination, teaching, training or presentation of new concepts / USE: to complement and supplement oral presentations / - / E1

Pastoriza Electronics, Inc., 285 Columbus Ave., Boston 16, Mass. / Personal Analog Computer / DESCR: a calculus and dynamics teaching aid. Individual functional units include addition, multiplication, integration, precise coefficient, and read-out. Battery powered and portable / USE: simulation of dynamic systems / \$397 / E1

Philco Technological Center, C & Ontario Sts., Philadelphia, Pa. 19134 / education / DESCR: provides resident school and home study courses in digital computer programming and maintenance; general electronic training simulator devices, materials, manuals, courses for schools, industry, military / - / \$100 to \$2100 / E1

Programming and Systems Institute, 33 West 42nd St., New York, N.Y. 10036 / electronic data processing education / DESCR: courses are offered in every aspect of data processing: programming of the IBM 1401, computer operation and theory, EAM wiring, programming of other computers, key punching / - / \$90 to \$325 / E1

Systemation Div., Ross-Martin Co. The Teleregister Corp., 445 Fairfield Ave., Stamford, Conn. / training devices / DESCR: training programs in EDP systems, maintenance, digital computer programming, electronic communications and special, related courses. Programmed instruction, particularly for application to Teleregister teaching systems / USE: training / - / E1

F1. FACSIMILE EQUIPMENT

Eastman Kodak Co. Hogan Faximile Corp. International Telephone & Telegraph Corp. -- see VI

TELautograph Corp., 8700 Bellanca Ave., Los Angeles, Calif. 90045 / QUIKFax / DESCR: Remote facsimile transmission of documents, drawings - up to 8 1/2" wide, unlimited length. 3 speeds - 900 lines per minute, 300 lines per minute, 180 lines per minute / USE: for data collection or distribution / \$2700 to \$3000 (or lease for \$75 to \$85 per month plus service) / F1

F5. FLOORS

Azrock Floor Products

Strato-Floor, Inc., 795 East 152nd St., Cleveland, Ohio 44110 / Strato-Floor / DESCR: elevated flooring system has fiberglass surfaced panel / USE: to create electrical plenum / - / F5

Weber Showcase and Fixture Co., Inc., 1340 Monroe Ave., N.W., Grand Rapids, Mich. / infinite access flooring / DESCR: prefabricated modular floor, supported on pedestals, installed over an existing floor to provide infinite access cabling trough or plenum chamber / USE: to support electronic data processing installations / \$3.50 to \$5 per square foot / F5

F5A. FORMS, CONTINUOUS

Allied/Egry Business Systems, Inc., 429 E. Monument Ave., Dayton, Ohio 45402 / data processing forms / DESCR: full line of stock forms and stock body forms with patterns of rules and tint bars; litho-imprint and custom forms / USE: on high-speed printers / - / F5A

American Business Systems, Inc., 2929 "B" St., Philadelphia 34, Pa. / DATA-LOPE / DESCR: continuous forms with a build-in pocket / USE: storage for cards, tapes, etc. or return mailing envelope / - / F5A

American Business Systems, Inc., a / LEGI-PRINT / DESCR: stock continuous forms for use on high speed printers where more than 6 parts are required / USE: blank or imprinted and custom printed / - / F5A

W. H. Brady Co. Clarksons Press Inc., Subsidiary of Graphic Controls Corp. Columbia Ribbon & Carbon Mfg. Co. Allen Hollander Co., Inc., 385 Gerard Ave., Bronx, N.Y. 10451 / pin-feed pressure-sensitive labels / DESCR: individual labels mounted on continuous marginally punched carrier. Operate over computer output printer and other data processing machines. Used on envelopes, packages, badge cards, equipment, etc. / USE: to address, price, mark, post, identify / - / F5A

Marginal Punched Stock Forms, Inc. Normandie Press, Inc. Old Town Corp. Shelby Business Forms, Inc. The Standard Register Co., 626 Albany St., Dayton, Ohio 45401 / business forms / DESCR: continuous business forms of all types; also unit set forms / USE: for processing on business machines -- typewriters, tabulating equipment, high speed printers, etc. / varies / F5A

Uarco Inc. WHEELDEX, INC., 1000 No. Division St., Peekskill, N.Y. / PERIPHERAL EQUIPMENT AND SUPPLIES / DESCR: Peripheral equipment and supplies. Pin-feed 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 / - / F5A

F7. FORMS HANDLING EQUIPMENT

Allied/Egry Business Systems, Inc., 429 E. Monument Ave., Dayton, Ohio 45402 / Divi Burster / DESCR: high speed forms burster with attachments for tab card bursting, imprinting signatures, and counting. Friction feed, safety hood and static eliminator / USE: bursting continuous forms / \$1600 to \$2800 / F7

The Standard Register Co., 626 Albany St., Dayton, Ohio 45401 / forms handling equipment / DESCR: bursters, burster-imprinters, decollators, refolding trays, heat-seal unit (thermobond), rotary imprinter. Also linefinders for attachment to keydriven equipment / - / - / F7

Moore Business Forms, Inc. Recognition Equipment Inc. Uarco Inc.

G1. GENERATORS, FUNCTION

Advance Electronics, Ltd. -- see C25 Amulex Electronics, Inc. Babcock Electronics Corp. The Bendix Corp., Eclipse-Pioneer Div., Teterboro, N.J. 07608 / FV-135-21-A1 motor and tachometer generator / DESCR: two-phase, six-pole, 400 cycle motor, and a single-phase tachometer generator that

generates an output potential proportional to speed / USE: electrical analog computers / - / G1
 Cybertronics Inc., 132 Calvary St., Waltham, Mass. 02154 / digital pattern generator / DESCR: miniature permanent magnets inserted in removable plastic pegboards set up desired program for digital pattern generation. Patterns rapidly and economically changed. Also functions as random-access core memory / USE: for simulation, event programming, function generation / \$2000 to \$6500 / G1
 Datapulse Inc., 509 Hindry Ave., Inglewood 1, Calif. / 200M data generator / DESCR: clock rate 2 cps - 2 Mc, 1 - 100 serial bits/word, 1 or 2 channels, outputs provided by plug-in modules selected / - / - / \$3710 without plug-ins / G1
 Datapulse Inc., *a / 202M data generator / DESCR: clock rate 5 cps to 5 Mc, 16 serial bits/word, 1 or 2 channels outputs are provided by plug-in modules selected / - / - / \$1720 without plug-ins / G1
 Elgenco, Inc., 1550 Euclid St., Santa Monica, Calif. 90404 / noise generators / DESCR: statistical input device for computers to provide random variable with Gaussian probability distribution / - / - / \$1295 to \$2495 / G1
 Exact Electronics, Inc., 455 S.E. 2nd Ave., Hillsboro, Ore. / function generators / DESCR: source of very low frequency sine, triangle, square, ramp and cosine voltages. May be internally programmed over frequency range of 0.01 cps to 10kc / USE: to simulate electromechanical, electrical, servo phenomena / \$475 to \$835 / G1
 Fairchild Controls, Div. of Fairchild Camera and Instrument Corp. -- see C26
 General Computers, Inc., 5990 W. Pico Blvd., Los Angeles, Calif. 90035 / function and electronic generators / DESCR: only diode function generators available programmed from punched card. Provides accuracy, stability and convenience of operation / USE: for generating the function $Y=f(X)$ / \$2450 to \$3950 / G1
 Hagan Controls Corp. -- A4, C32, D1, S1
 The A. W. Haydon Co. -- see T11.3
 Hewlett-Packard Co.
 International Electronic Research Corp., 61in Div., 135 W. Magnolia Blvd., Burbank, Calif. / remote programmed oscillators / DESCR: programmed voltage and frequency capabilities. Coding format and memory to customer's requirements. Amplifiers available to multi-kilowatts single or multiple phase / - / - / G1
 Perkin-Elmer Corp., Electronic Products Div.
 G2. GENERATORS, FUNCTION, ELECTRONIC
 Advance Electronics, Ltd. -- see C25
 The Bendix Corp., Eclipse-Pioneer Div. -- see G1
 Burr-Brown Research Corp.
 Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. / digital program generator / DESCR: solid-state variable frequency, (2 kc to 20 mc) multi-channel, programmable, pulse train generator providing program step repeat and alternate adjacent step repeat controls / USE: to test memory cores, develop circuit and logic, and high speed clock or word generation / \$9000 to \$14,000 / G2
 Computer Control Co., Inc., *a / pulse current generator / DESCR: provides an output current pulse of variable rise/fall time (10 nanoseconds to 5 microseconds), width (20 nanoseconds to 50 microseconds), and amplitude (100 ma to 1 amp into a 50 ohm load); frequencies to 20 megacycles / USE: to convert programmed sync pulses from digital program generator / \$1500 to \$1600 / G2
 Datapulse Inc., 509 Hindry Ave., Inglewood 1, Calif. / 106 pulse generator / DESCR: 10 cps to 10 Mc rep rate, linear variable rise and fall time from less than 10 ns. Complete line of pulse generators available / - / - / \$980 / G2
 Elgenco, Inc. -- see G1
 Exact Electronics, Inc., 455 S.E. 2nd Ave., Hillsboro, Ore. / complex waveform generator / DESCR: composed of 50 straight line segments each of which may be varied in

slope and amplitude. May be internally programmed from 33u sec to 0.02 cps / USE: to simulate any time related phenomena / \$2275 to \$2425 / G2
 General Computers, Inc. -- see G1
 Hagan Controls Corp. -- see A4, C32, D1, S1
 Hewlett-Packard Co.
 Intercontinental Instruments, Inc.
 RMS Associates, Div. of Information Displays, Inc., 102 E. Sandford Blvd., Mt. Vernon, N.Y. / CURVILINE character generator / DESCR: generators 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
 G3. GENERATORS, FUNCTION, MECHANICAL
 Fairchild Controls, Div. of Fairchild Camera and Instrument Corp. -- see C26
 H1. HEADS, MAGNETIC
 Applied Magnetics Corp., 749 South Kellogg Ave., Goleta, Calif. / magnetic heads / DESCR: precision magnetic recording heads custom designed; analog, digital, interlaced and redundant assemblies. Research, prototype development and production quantities / USE: for computer and instrumentation applications / \$150 to \$1500 / H1
 Bryant Computer Products, 850 Ladd Rd., Walled Lake, Mich. / 48088 / heads / DESCR: fixed and flying heads / USE: to both record and playback information recorded on a magnetic medium such as magnetic storage drums and disc files / \$12.60 (fixed head); \$15 (flying head) / H1
 General Instrument Corp., Magne-Head Div. -- see D12
 Houston Instrument Corp.
 IBM, Federal Systems Div.
 International Electro-Magnetics, Inc., Eric Drive & Cornell Ave., Palatine, Ill. 60067 / I.E.M. / DESCR: Magnetic record, playback and erase heads for computers, telemetering, data recording, video and audio equipment / USE: to record, playback and erase magnetic data on tape, drums, film and discs / \$4 to \$2000 / H1
 Edwin A. Lipps Engineering -- see H3
 Norton Associates, Inc., 240 Old Country Rd., Hicksville, N.Y. / magnetic heads / DESCR: standard and special magnetic heads, record, playback and erase in single and multi-track formats for magnetic tape, film, drum and MICR applications / - / - / H1
 S-I Electronics, Inc., 103 Park Ave., Nutley 10, N.J. / magnetic recording and reproducing heads / DESCR: special and custom-designed heads made to individual specifications / USE: for recording and reproducing digital and analog data on tapes and drums / - / - / H1
 H2. HEADS, MAGNETIC, READING
 Applied Magnetics Corp. -- see H1
 Bryant Computer Products -- see H1
 General Instrument Corp., Magne-Head Div. -- see D12
 International Electro-Magnetics, Inc. -- see H1
 Edwin A. Lipps Engineering -- see H3
 Norton Associates, Inc. -- see H1
 S-I Electronics, Inc. -- see H1
 H3. HEADS, MAGNETIC, RECORDING
 Applied Magnetics Corp. -- see H1
 Bryant Computer Products -- see H1
 General Instrument Corp., Magne-Head Div. -- see D12
 Instrument Systems Corp., 111 Cantiaque Rd., Westbury, L.I., N.Y. / tape heads / DESCR: single channel hall effect heads for flux-response playback / - / - / \$70 to \$120 / H3
 International Electro-Magnetics, Inc. -- see H1
 Edwin A. Lipps Engineering, 1511 Colorado Ave., Santa Monica, Calif. / magnetic recording heads / DESCR: complete fabrication and production of all types of quality recording heads. Primarily made to customer specifications; competitively priced / USE: instrumentation, computers, drums, professional studio recorders, motion picture equipment / \$15 and up / H3

Norton Associates, Inc. -- see H1
 S-I Electronics, Inc. -- see H1
 I2. INFORMATION RETRIEVAL DEVICES
 Bailey Meter Co., 29801 Euclid Ave., Wickliffe, Ohio 44092 / 750 Information system / DESCR: solid-state, gathers analog data; scans, alarms, and logs digitally / USE: to provide simplified information display to plant operators / - / - / I2
 Beckman & Whitney, Inc.
 Bryant Computer Products -- see M2
 Cambridge Communications Corp.
 Contronics, Inc. -- see C24A
 Data Display, Inc., 1820 Como Ave., St. Paul, Minn. / dd 10 Multi Station Remote Data Entry, Retrieval and CRT Display System / DESCR: dd 10 gives up to 64 typewriter input-cathode ray tube output stations immediate access to a digital data source. Central control unit will handle 20,000 inquiries per hour / USE: rapid remote inquiry and CRT display of computer memory contents by many operators / \$30,000 to \$100,000 / I2
 Documentation, Inc.
 FMA, Inc., 142 Nevada St., El Segundo, Calif. / Filesearch / DESCR: automated system for storage and retrieval of documentary information / USE: to store and retrieve documents / \$170,500 / I2
 General Dynamics/Electronics -- see D2, V1
 GPL Div., General Precision Inc.
 Hogan Faximile Corp.
 Houston Fearless Corp.
 Image Instruments, Inc., 2300 Washington St., Newton Lower Falls 62, Mass. / Electrostore units / DESCR: recording storage tube systems, scan converters, computer data display storage, change detectors / USE: integration, change detection, display / \$19,000 to \$28,000 / I2
 Information For Industry, Inc. -- see D2
 Information Products Corp., Sub. of Renwell Industries, Inc., New Ludlow Rd., South Hadley Falls, Mass. / interrogator system / DESCR: individually buffered, CRT display interrogators with keyboard input, supplied with controls to operate with data processors. Speeds of transmission to 25,000 characters/second / USE: information retrieval, data input / \$160 to \$360 per month / I2
 Information Retrieval Corp., 1000 Connecticut Ave., N.W., Washington, D.C. 20036 / CRIS / DESCR: electronic microfilm storage, retrieval, and dissemination device with visual automation / USE: storage and retrieval of microfilm documents / \$33,500 / I2
 Institute for Scientific Information, Inc. -- see P13
 IBM, Federal Systems Div.
 Itek Corporation
 Librascope Group, General Precision Inc.
 RMS Associates, Div. of Information Displays, Inc., 102 E. Sandford Blvd., Mt. Vernon, N.Y. / 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 \$50,000 / I2
 The Teleregister Corp., 445 Fairfield Ave., Stamford, Conn. / automated voice-reply system (Televox) / DESCR: on-line digital-to-voice information system; provides automatic audio output over standard telephones complete with magnetic drums, logic, and power supplies / USE: either as self-contained system or as data-processor subsystem / upon request / I2
 The Teleregister Corp., *a / Information distribution systems, series 100 and 200 / DESCR: high-speed data input/inquiry stations with visual display and control and communications equipment are flexible, general-purpose input/output systems; display up to 12 lines of 64 characters each; full alphanumeric keyboard / USE: with data-processing equipment / - / - / I2
 Viewlex, Inc.
 Zator Co.
 I2A. INFORMATION ENGINEERING
 Abacus Information Management Co.
 Aries Corp., 7722 Morgan Ave., So., Minneapolis, Minn. 55423 / Informa-

tion Engineering / DESCR: planning, specification and selection of integrated systems incorporating data entry, storage and retrieval devices to meet application requirements with minimum cost / USE: management of information retrieval / problem dependent / I2A
 Arkay Engineering, Inc.
 Auerbach Corp.
 Automated Systems International
 Beckman & Whitney, Inc.
 Booz, Allen & Hamilton Inc. -- see C27
 The Bunker-Ramo Corp.
 Hollander Associates
 HIRB-Singer, Inc., Science Park, Box 60, State College, Pa. 16801 / Information Systems products and services / DESCR: methods and equipment which comprise information systems / - / - / I2A
 IBM, Federal Systems Div.
 Mellonics Systems Development, Inc., 300 Sunnyvale Office Center, Sunnyvale, Calif. / Information engineering / DESCR: design of systems for control and display of data for decision-making purposes / USE: establishment of criteria for information content / - / I2A
 URS Corp.
 I4. INTEGRATORS
 Acromag, Inc., 15360 Telegraph Rd., Detroit, Mich. 48239 / electrical integrator / - / USE: integrate d.c. voltages / \$139 to \$175 / I4
 Bulova Research & Development Laboratories -- see R12A
 I5. INTEGRATORS, ELECTRONIC
 Burr-Brown Research Corp.
 Hagan Controls Corp. -- see A4, C32, D1, S1
 Image Instruments, Inc. -- see I2
 I6. INTEGRATORS, MECHANICAL
 Hagan Controls Corp. -- see A4, C32, D1, S1
 I7. INVENTORY SYSTEMS
 The Bunker-Ramo Corp.
 Colorado Instruments, Inc. -- see K1
 Contronics, Inc. -- see C24A
 Edward Ochman Systems -- see P1
 The Teleregister Corp., 445 Fairfield Ave., Stamford, Conn. / inventory-control system / DESCR: punched-paper tape and keypad input, magnetic drum storage, indicator-display output or punched-paper tape / USE: warehousing and inventory control / upon request / I7
 URS Corp.
 K1. KEYBOARDS
 Colorado Instruments, Inc., Garden Office Center, Bloomfield, Colo. / "C-Dek", computer data entry keyboard / DESCR: keyboard for preparing data for computer processing. Output punched paper tape, cards, or magnetic tape. Illuminated keys, plastic overlay mats outlining data entry format / USE: in engineering estimates, inventory, cost accounting systems, job management data, etc. / \$1170 to \$1700 / K1
 Connecticut Technical Corp.
 Keystone Electronics Corp.
 L1. LIGHTS, INDICATOR
 AMP Inc., Eisenhower Blvd., Harrisburg, Pa. / AMPILLUME Neon Indicator Light / DESCR: self-mounting nylon housing, 125 or 250 volts; life expectancy 25,000 hours; wide choice of lenses / USE: equipment requiring indicator lights / - / L1
 Dialight Corp., 60 Stewart Ave., Brooklyn, N.Y. 11237 / indicator lights and illuminated pushbutton switches / DESCR: indicator lights, pilot lights, ultra-miniature indicator lights ("DataLites"). 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 readouts / USE: on computing, data processing, and automation equipment / - / L1
 Drake Manufacturing Co.
 Eldema Corp., 18435 Susana Rd., Comp-

ton, Calif. / indicator lights / DESCR: standard pilot light types and transistor-driven logic readout types, for all commercial or military applications / USE: display / \$10 to \$10 / L1

Industrial Electronic Engineers, Inc. Penn Keystone Corp., P.O. Box 350, Derby, Conn. / indicator lights / DESCR: encapsulated lamps made to customer specifications or standards utilizing "PEAKLITE" material / - / \$1 to \$4 each / L1

Transistor Electronics Corp., Box 6191, Minneapolis 24, Minn. / Tec-Lite Data Panel / DESCR: completely versatile (size, shape, color) information display modules. Self-contained panel assembly including lamp control circuitry / USE: computer consoles and operator's panels / - / L1

Transistor Electronics Corp., *a / Tec-Lite Indicator Devices / DESCR: conventional and transistor controlled indicators (some combining integral switches). Designed to control incandescent or neon lamps from low level logic signals / USE: information display for computers and solid state systems / \$3 to \$13.50 / L1

M2. MEMORY SYSTEMS

Adcom Corp., 9732 Cozycroft Ave., Chatsworth, Calif. / analog memory / DESCR: Model 420-A "Analog" provides storage to 0.1% of single level with no time decay. Sample time 10 usec; holding time infinite / - / \$1375 to \$7450 / M2

Anelex Corp., 150 Causeway St., Boston, Mass. 02114 / Model 80, Random Access Disk File / DESCR: low cost, high performance memory; interchangeable disk kit containing six disks. Each disk kit contains 3.9 million 7 bit character / USE: for small and medium scale data processing systems / - / M2

Anelex Corp., *a / Model 800, Random Access Disk File / DESCR: provides modular storage capacity ranging from 20 million to 201 million bits; available as a one or two frequency system / USE: for medium and large scale data processing systems / - / M2

Anelex Corp., *a / Model 4800, Random Access Disk File / DESCR: provides on-line capacity in the hundred million character range / USE: for large scale information retrieval and storage / - / M2

The Bendix Corp., Eclipse-Pioneer Div., Teterboro, N.J. 07608 / Bendix optical memory system / DESCR: disc-type optical memory system designed as a simple, reliable device for the permanent storage and retrieval of data / USE: navigation computers, digital simulators, monitoring systems, etc. / - / M2

Bryant Computer Products, 850 Ladd Rd., Walled Lake, Mich. 48098 / magnetic storage drums / DESCR: both fixed and flying head magnetic storage drums in a wide range of operating speeds and sizes; standard or custom; prototype and production quantities / USE: in electronic computers, industrial process control systems, laboratory research applications and military applications / \$298 to \$43,000 / M2

Bryant Computer Products, *a / Series 4000 Disc Files / DESCR: production-built, random access, mass memories; available in one-disc multiples ranging in capacity from 31,000,000 bits-per-disc to 65,000,000 bits-per-disc / USE: fast random-access store capable of delivering high data transfer rates for either series or parallel operation / \$40,000 to \$134,000 / M2

Bryant Computer Products -- see S9 The Bunker-Ramo Corp.

Burroughs Corp., Electronic Components Div., P.O. Box 1226, Plainfield, N.J. / memory stacks and systems / DESCR: coincident current and linear select in any size, speed and configuration tailored to customer specification. Systems from 64 to 4096 words; 2 to 64 bits; cycle times to 2 usec / USE: digital computer and systems applications / less than 3¢ per bit / M2

Canadian Aviation Electronics Ltd. -- see C22A

Cognitronics Corp. -- see D12

Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. / general-purpose TCM-32 core memory / DESCR: solid-state, coincident current core memory. Word lengths 6-

48 bits; word capacities 128 to 4096. Full cycle, 5µsec; half cycle, 3µsec. / USE: to store digital information for computer and system applications / - / M2

Computer Devices Corp., 6 West 18th St., Huntington Sta., N.Y. 11746 / serial memories and memory systems / DESCR: wire sonic delay line type. Store up to 20,000 bits per card; bit rates up to 2 Mcs; stacks of cards are used similar to storage drums / USE: in any serial memory application (temporary storage) / \$125 to \$350 / M2

Corning Glass Works -- see C26

Cybetronics Inc. -- see G1

DI/AN Controls, Inc.

DIGITAL DEVELOPMENT CORP., 7541 Eads Ave., La Jolla, Calif. / MAGNETIC MEMORY DRUMS AND DISCS, complete memory systems / DESCR: capacities to 160 million bits at 8 msec. average access time or less. Data rates to 4 mc. Complete system organization and design. Size compatible with standard rack cabinets / USE: digital computer memory or data system storage / \$250,000 / M2

Fabri-Tek, Inc., Box 645, Amery, Wis. / core planes and stacks / DESCR: ferrite core planes and stacks for storage of digital data / USE: computer manufacturers / \$50 to \$40,000 / M2

Fabri-Tek, Inc., *a / memory systems / DESCR: digital memory systems 16 to 32,000 words of 1 to 60 bits. Two and five microsecond machines / USE: digital equipment manufacturers / \$5000 to \$50,000 / M2

Fairchild Space and Defense Systems Ferranti Electric, Inc. Ferroxcube Corp. of America General Instrument Corp., Magne-Head Div. -- see D12

Houston Fearless Corp. Indiana General Corp., Electronics Div. IBM, Federal Systems Div. International Computers and Tabulators Ltd. Itek Corporation Leduc Inc. -- see C31

Librascope Group, General Precision Inc. Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility 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

Rese Engineering Inc. S-1 Electronics, Inc. -- see T2

Systems Engineering Laboratories, Inc., P.O. Box 9148, 4066 N.E. Fifth Ave., 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

M3. MULTIPLIERS

Harman Kardon Inc., Data Systems Div. Weston Instruments & Electronics

M4. MULTIPLIERS, DIODE

Burr-Brown Research Corp. Sylvania Electric Products, Inc., Semiconductor Div. -- see C11

M5. MULTIPLIERS, ELECTRONIC

AmTron Inc. -- see C32

Avtron Manufacturing, Inc. Chadwick-Helmuth Co., 111 E. Railroad Ave., Monrovia, Calif. 91016 / electronic multiplier / DESCR: hold 0.35% total error from DC to 500 cps, with 1 phase shift and 1% error at 1000 cps. Computer and instrumentation models available / USE: determine instantaneous product of t or time varying inputs / \$1550 to \$1750 / M5

Consolidated Electrodynamics Corp. Hagan Controls Corp. -- see A4, C32, D1, S1

Harman Kardon Inc., Data Systems Div. 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. Operation is based on the quarter square principle / USE: Produces analog output voltage in proportion to product of 2 input voltages / \$1000 to \$2000 / M5

Towson Laboratories, Inc. -- see C40

M7. MULTIPLIERS, SERVO

Davidson Electronic Development Co., 2211 Peninsula Drive, Erie, Pa. 16505 / memories / DESCR: analog/digital/shift register for automation equipment / USE: comparisons/sorting indications and controls / \$20 to \$200 per bit / M7

O1. OFFICE MACHINES

Addo-X, Inc., ADP Div. Ditto, Inc. Ferranti Electronics, Div. of Ferranti-Packard Electric Ltd., Industry St., Toronto 15, Ont., Canada / document transcribers / DESCR: automatic preparation of sales and purchase orders, back orders, warehouse documents, shipping memoranda, from coded cards with more than 3,000 characters storage capacity per card / - / \$6500 to \$8500 / O1

Friden, Inc., a subsidiary of the Singer Co., 2350 Washington Ave., San Leandro, Calif. / office equipment / DESCR: complete line of adding, calculating, data processing machines and related equipment / USE: general office / - / O1

International Computers and Tabulators Ltd. Monroe Calculating Machine Co., Div. Litton Industries Edward Ochman Systems -- see P1

Victor Comptometer Corp., Business Machines Div.

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

Abacus Information Management Co. Booz, Allen & Hamilton Inc. -- see C27

The Data Center Corp., 3002 Midvale Ave., Los Angeles 34, Calif. / business applications programming, systems design, processing services / DESCR: specialists in design and implementation of integrated accounting systems, PERT, CPM, Management Controls / - / - / O2

Hollander Associates IBM, Federal Systems Div.

P1. PANELS

Neal Feay Co., 133 La Patera, Goleta, Calif. / Panels / DESCR: metal and plastic (not edge lighted) anodized, painted, litho silk-screened, engraved (Anofax TM) multi-colored anodized. Fabrication on tape controlled equipment for accurate repeatability of dimensions / USE: portable and rack mounted / - / P1

Hagan Controls Corp. -- A4, C32, D1, S1

Hammond Manufacturing Co., Ltd., Edinburgh Rd. & Speedvale Ave., Guelph, Ontario, Canada / panels / DESCR: Metal panels, enclosures and cabinetry / USE: for computer enclosures / - / P1

Edward Ochman Systems, Box 141, Fairfield, Conn. / control panels, wires, data processing accessories / DESCR: manufacture and sell control panels and wires for IBM and Remington Rand equipment; also data processing accessories and computer tape storage equipment / - / - / P1

Precision Metal Products, 41 Elm St., Stoneham, Mass. / terminal panels / DESCR: made to customer specifications. Fabricated FM laminated phenolics assembled with terminals and related hardware, small or large quantity / - / - / P1

P2. PANELS, JACK

Accurate Electronics Corp., 169 S. Abbe Rd., P.O. Box 935A, Elyria, Ohio 44036 / jack panels / DESCR: phone jack or patch cord panels. Segmented or solid. Marked, color-codes to fit customer requirements / USE: for control and programming panels / \$10 to \$750 / P2

AMP Inc., Eisenhower Blvd., Harrisburg, Pa. / patchcord programming

panels, universal and shielded / DESCR: metal frame assembly containing fixed board retaining contact springs and non-removable program patchcord / USE: in computer programming / - / P2

Neal Feay Co. -- see P1

Hammond Manufacturing Co., Ltd. Trompeter Electronics Inc. -- see B2

P3. PANELS, RELAY RACK

Neal Feay Co. -- see P1

Federated Engineering Development Corp. -- see C32

Golding Manufacturing Co., 90 Porete Ave., No. Arlington, N. J. 07032 / fabricated sheet metal parts to order / DESCR: custom made precision sheet metal products, computer cabinets, housings, frames, racks, panels, chassis, boxes, containers, brackets / - / - / P3

Hammond Manufacturing Co., Ltd.

P4. PAPER TAPE

Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / paper tape / DESCR: used with tape punching-reading machines (such as Flexowriter, Computer) or allied equipment / USE: general data processing, numerical control, etc. / - / P4

NAVCOR (Navigation Computer Corp.), Valley Forge Ind. Park, Norristown, Pa. / Model 1010 tapewriter / DESCR: keyboard operated paper tape punch simultaneously prints characters on margin of tape. Numeric or full alpha-numeric. Electronically controlled, code changes easily made. Optional reader attachment / USE: machine control, data recording, computer input / \$1400 to \$2000 / P4

Paper Manufacturers Co. -- see T6

P5. PATCH CORDS

AMP Inc., Eisenhower Blvd., Harrisburg, Pa. / Universal shielded and twin detent patchcords / DESCR: patchcords in various lengths, colors and pin combinations / USE: in programming of patchcords / - / P5

Edward Ochman Systems -- see P1

Pomona Electronics Co., Inc. Trompeter Electronics Inc. -- see B2

Vector Electronic Co., Inc., 1100 Flower St., Glendale, Calif. 91201 / Patch cords / DESCR: four color coded lengths - 6", 9", 15" and 24" with single, 3-prong and 4-prong common conductor brass plugs, nickel or gold plated / USE: to make connections on patch boards / \$0.10 to \$0.49 / P5

Virginia Electronics Co., Inc., River Rd. and B & O RR, Washington, D.C. 20016 / Circuit programming systems (patch boards) / DESCR: permits rapid changes of interconnection patterns between sections or groups of electrical or electronic equipment so as to effect desired changes in operation of equipment / USE: with analog and digital computers, telemetering systems, communications equipment, test equipment, etc. / \$100 to \$900 / P5

Zoron, Inc., 4853 N. Ravenswood, Chicago 40, Ill. / connectors and switches / DESCR: connector cables, plugs, jacks, mic. connectors, battery connectors, binding posts, push button switches, phone switches / - / - / P5

P6. PLOTTERS

Adtrol Electronics, Inc. -- see D2

California Computer Products, Inc. Dimensions, Inc. -- see V1

Electronic Associates Inc. Electro Instruments, Inc., 8611 Balboa Ave., San Diego, Calif. 92112 / X-Y recorders / DESCR: instrument which automatically draws smooth curve representing interrelated variations / USE: to reduce information to graphical form / \$1200 to \$4950 / P6

General Dynamics/Electronics -- see D2

The Gerber Scientific Instrument Co., P. O. Box 305, Hartford, Conn. / digital plotting systems / DESCR: equipment for automatic presentation of graphical displays through the use of all digital design techniques / USE: produces high quality display on drafting film, paper or cloth / \$19,800 to \$90,000 / P6

Products and Services

Hathaway Instruments, Inc.
Hogan Faximile Corp.
Sunshine Scientific Instruments

P6A. PLUGBOARDS

Accurate Electronics Corp., 169 S. Abbe Rd., P.O. Box 935A, Elyria, Ohio 44036 / plugboards / DESCR: to fit phone jacks or patch connectors. Segmented or solid, marked, color-coded to customer specs. / USE: for control and programming panels / \$10 to \$750 / P6A
AMP Inc. -- see B2
Keystone Electronics Corp.
Edward Ochman Systems -- see P1
Sealot Corp., 225 Hoyt Ave., Manaroneck, N.Y. / Sealectboard program boards / DESCR: cordless matrix board for multiple input/output switching and component interpositioning -- 2- and 3-deck configurations / USE: for programming electrical/electronic systems / \$19.95 and up / P6A
The Teleregister Corp., 445 Fairfield Ave., Stamford, Conn. / plugboards / DESCR: electro-mechanical plugboards containing 50 rows of 35 receptacles each; special plugs permit either one of three states for input to computer-stored data and simultaneously for display / USE: updating and display or computer-stored data for airlines, etc. / upon request / P6A
Vector Electronic Co., Inc., 1100 Flower St., Glendale, Calif. 91201 / preprogramming patch boards / DESCR: light gray painted cadmium plated steel receptacle frame. Beryllium copper contacts. Tan, ivory or black epoxy laminated removable patch panel. Standard alpha-numeric legend screening / USE: any electronic equipment where rapid changing of programs is required / \$86.25 to \$206.50 / P6A
Virginia Electronics Co., Inc. -- see P5

P9. PRINTERS

Advance Electronics, Ltd. -- see C25
Anelex Corp., 150 Causeway St., Boston, Mass. 02114 / Series 5 Communications Printer / DESCR: adaptation of Series 5 printers, tailored to individual requirements of the data communications system / USE: computer controlled communications networks -- high or low-speed printout / - / P9
Auto-Trol Corp. -- see C40
Clary Corp.
Connecticut Technical Corp.
Creed & Co., Ltd. (assoc. of ITT Corp.)
Datex Corp.
General Radio Co.
Photon, Inc., 355 Middlesex Ave., Wilmington, Mass. / Series 900 phototypesetter and control unit / DESCR: high speed computer printout device producing photographic type of graphic arts quality; 900 series is operated from magnetic or paper tape produced by computers. Composition rate for 8" lines is 150 lines per min., fully justified. A choice of 264 different characters is available during continuous operation. Any combination of these characters can be mixed in the same line / USE: newspapers, magazines, books and general printing field / - / P9
Teletype Corp.

P10. PRINTERS, HIGH SPEED

Adtrol Electronics, Inc. -- see D2
Advance Electronics, Ltd. -- see C25
Anelex Corp., 150 Causeway St., Boston, Mass. 02114 / Franklin Series 1000 High Speed Printer / DESCR: digital and alpha-numeric models print at 40 or less lines/minute. Columns range from 1 to 20. Operates from computers or digital devices / USE: checkout operations / - / P10
Anelex Corp., *a / Franklin Series 1200 High Speed Printer / DESCR: prints decimal data and certain symbols at speeds of 1200 lpm. Columns vary from 1 to 12. Operates from computers, voltmeters or other digital output devices / USE: checkout operations / - / P10
Anelex Corp., *a / Multiple Tape Lister / DESCR: produces one to six independent lists at speeds up to 2000 lpm. System has six

24 column stations, 10 digits and 5 characters each / USE: bank demand-deposit accounting / - / P10

Anelex Corp., *a / Series 5 Building-block Printers / DESCR: permits user to select components to meet requirements; columns range from 20 to 160, spacing 6, 8, or 10 lpi., speed from 200 to more than 2000 lpm. buffered / USE: for all EDP applications / - / P10

Butler Roberts Associates, Inc., Subsidiary of Oki Electric Industry Co., Ltd., 202 E. 44th St., New York 17, N.Y.; 500 S.E. 24th St., Ft. Lauderdale, Fla. / OKI 5093-2 high speed line printer / DESCR: 600 line per minute belt type printer 120 or 132 characters per line available with or without electronics / USE: printing output of computer / \$8000 to \$12,000 / P10

FRANKLIN ELECTRONICS INC., E. 4th St., Bridgeport, Pa. / HIGH SPEED DIGITAL PRINTER / DESCR: digital or complete alpha-numeric printers; maximum of 20 columns; printing speed to 40 LPS / USE: driven by computers, digital voltmeters, etc. / \$1600 to \$5000 / P10

General Dynamics/Electronics, 3302 Pacific Highway, P. O. Box 127, San Diego 12, Calif. / S-C 3070 Electronic Printer / DESCR: high speed printer for data processing and digital communication systems. Prints a synchronously character at a time upon signal from digital computer, highspeed teletype terminal or other data handling devices / USE: on line or off line with digital computers / - / P10

General Dynamics/Electronics -- see D2
Hogan Faximile Corp.
IBM, Federal Systems Div.
Itek Corporation

Omnitronics, Inc., Subsidiary of Borg-Warner Corp., 511 North Broad St., Philadelphia 23, Pa. / electrostatic strip printers / DESCR: high speed printers which use an electrostatic recording technique to print code, symbols or alpha-numeric characters on coated paper 1/4" to 12" wide / USE: data processing, communications, telemetry, etc. / \$7485 to \$200,000 / P10

Photomechanisms, Inc., 15 Stepar Place, Huntington Station, N.Y. 11746 / Model 1202 hard copy printer / DESCR: on-line camera-processor-electrostatic printer for recording CRT data on 35 mm film at 4 frames/sec, printing 8 1/2 x 11 hard copy / USE: to generate hard copy from CRT output of high speed digital computers / \$25,000 to \$30,000 / P10

RMS Associates, Div. of Information Displays, Inc. -- see G2, 12
Straza Industries, Electronics Div. -- see D2
Technitrol, Inc.

P11. PRINTERS, KEYBOARD

IBM, Federal Systems Div.

P12. PRINTERS, LINE-A-TIME

Adtrol Electronics, Inc. -- see D2
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden PRCS Printer / DESCR: electro-mechanical digital printing device. Solenoid keyboard accepts 1200 digits per minute. Negative values print in red / USE: digital printing / - / P12

Holley Computer Products Co., 11955 E. Nine Mile Rd., Warren, Mich. / H207 line printer / DESCR: prints data from computer, analog-to-digital converter, communications demodulator, paper tape reader, card reader or magnetic tape reader. Provides line-at-a-time electro-mechanical printout in digital data processing and communications systems / USE: on line or off line / \$10,000 to \$15,000 / P12

IBM, Federal Systems Div.
International Computers and Tabulators Ltd.

P12A. PROGRAMMING SERVICES

Abacus Information Management Co.

ADB Institutet (Scandinavian Automatic Data Processing Institute)

Applied Data Research, Inc. -- see C30

Aries Corp., 7722 Morgan Ave. So., Minneapolis, Minn. 55423 / programming services / DESCR: problem definition, analysis, and complete programming services for all types of digital computers / USE: for government, business, scientific and military command and control applications / problem dependent / - / P12A

Auerbach Corp.
Booz, Allen & Hamilton Inc. -- see C27

Brandon Applied Systems, Inc., 30 East 42nd St., New York, N.Y. 10017 / programming services / DESCR: specialized services to data processing users and manufacturers, including program development, systems design, programming systems development, and software and design evaluation / - / - / P12A

COMRESS (Computer Research, Systems and Software) INC., 2120 Bladensburg Rd., N.E., Washington, D.C. 20018 / SCERT (Systems and Computers Evaluation and Review Technique) / DESCR: Theory/simulation technique; builds mathematical models of computer run to be programmed, then simulates performance on hardware/software performance matrix for each configuration to be evaluated / USE: for selection of optimum configuration and optimum systems approach / \$4000 to \$12,000 / P12A

Computer Dynamics Corp., Subsidiary of The Teleregister Corp., 1104 Spring St., Silver Spring, Md. / programming services / DESCR: complete programming services for all types and applications of computers either under full contract or by complementing customer programming teams / - / upon request / P12A

Computer Methods Corp. -- see C30
Computer Usage Co., Inc.

The Data Center Corp., 3002 Midvale Ave., Los Angeles 34, Calif. / business applications programming, systems design, processing services / DESCR: specialists in fully programmed accounting packages, PERT, CPM Modules and Manufacturing applications for 1401/1440/7094 / - / - / P12A

Data Processing Corporation of America

Data Processing, Inc., 1334 Main St., Waltham, Mass. 02154 / advanced software and complex logical programming / DESCR: sophisticated computer applications, both scientific and business, with emphasis on advanced software and complex logical programming / - / - / P12A

Data Systems Analysts, Inc., 5900 Westfield Ave., Pennsauken, N.J. / programming / DESCR: complete programming service from analysis and design through coding and hands on de-bugging; specialty is real-time and communications applications / - / - / P12A

Datarol Corp. -- see C30
The Diebold Group, Inc.
Lutter, Maremont and Co., Inc.
Magnetic Aids, Inc.
Massey Dickinson Co., Inc.
McDonnell Automation Center -- see C27

Mellonics Systems Development, Inc. 300 Sunnyvale Office Center, Sunnyvale, Calif. / computer programming services / DESCR: development of computer programs for any one of 23 different large-scale and small computers / USE: for commercial, scientific and military applications / - / P12A

Ray Myers Corp. -- see C30
National Computer Analysts, Inc.
Programmatics Inc., 11753 Wilshire Blvd., Los Angeles, Calif. 90025 / systems programming / DESCR: programming research and production of compilers, assemblers, monitor and operating systems, general systems programming / - / - / P12A

The Scan Instrument Corp.
The Service Bureau Corp., a subsidiary of IBM
Southwestern Computing Service, Inc.
Statistical Tabulating Corp.
Systems Data Processing Co.
Systems Research Laboratories, Inc.
Technical Operations Research, a div. of Technical Operations, Inc.
Technitrol, Inc.
U.S. Air Force, Computation Div.,

Data Services Center
U. S. Naval Weapons Laboratory, Computation and Analysis Lab.
UNIVAC Twin Cities Operations of Sperry Rand Corp.
Wolf Research and Development Corp., P. O. Box 36, W. Concord, Mass. / programming services / DESCR: large staff of analysts and programmers with experience in programming scientific, engineering, business, industrial and military applications on most commercially available digital computers / - / P12A

P13. PUBLICATIONS

Belock Instrument Corp., 112-03 14th Ave., College Point, L.I., N.Y. 11356 / publication services / DESCR: personnel for preparation of commercial and military technical data, including writers, editors, artists and parts specialists; complete facilities for typing, preparation and printing / USE: available for subcontract work / \$2000 to \$500,000 / P13

Berkeley Enterprises, Inc.
Cambridge Communications Corp.
Gordon and Breach, Science Publishers Inc.

Institute for Scientific Information, Inc., 325 Chestnut St., Philadelphia, Pa. 19106 / Science Citation Index / DESCR: service updates and unifies scientific literature -- groups all works (from every discipline) which have cited a particular reference following its publication. Issued quarterly, cumulated annually / USE: dissemination, retrieval and evaluation of information / \$1250 to \$1950 annually / P13

Instrument Society of America
Management Science Training Institute, 430 Park Ave., New York 22, N.Y. / ADP Newsletter / DESCR: professional publication, published on alternate Mondays, to provide practical information and guidance on the latest applications and market developments in commercial and scientific information systems / USE: subscription / \$37.50 per year / P13

OA Business Publications, Inc., 288 Park Ave. W., Elmhurst, Ill. / Banking Automation Updating Service / DESCR: monthly looseleaf service -- contains over 400 pages equipment and case studies relating to banking EDP. Manual kept up-to-date by monthly updating service / USE: reference source in banking data processing / \$55 / P13

OA Business Publications, Inc., *a / Business Automation News Report / DESCR: weekly news service covering all developments in EDP -- installations, products, government rulings affecting automation, personalities, financial reports / USE: brief weekly information source for developments in data processing / \$10 to \$50 / P13

OA Business Publications, Inc., *a / Office Automation Handbook & Updating Service / DESCR: loose-leaf manual (over 400 pages) contains complete equipment descriptions of available computer hardware and peripheral gear. Monthly updating service keeps manual up-to-date / USE: reference source to locate equipment capabilities within a single looseleaf book / \$45 to \$82.50 / P13
Reinhold Book Div., Reinhold Publishing Corp.

Systemation Div., Ross-Martin Co.
John Wiley & Sons, Inc.

P15. PUBLICATIONS, MAGAZINES

Berkeley Enterprises, Inc.
Cambridge Communications Corp.
Computers and Automation
Data Processing Digest, Inc.
The Institute of Management Sciences
Instrument Society of America

P16. PUNCH CARD MACHINES

Addo-X, Inc., ADP Div., 270 Park Ave., New York 17, N.Y. / punch card machines / DESCR: 10 key tabulating carriage adding or accounting machine link to card punch. Automatic punching of insignificant zeros, simultaneous capture and list of control figures / USE: data capture equipment / \$1000 to \$4000 / P16

Products and Services

Data Processing Equipment Exchange Co.

General Instrument Corp., Magne-Head Div. -- see C47
General Instrument Corp., Systematics Div. -- see C22, C42
The National Cash Register Co.
Edward Ochman Systems -- see P1

R1. READERS

Beckman & Whitley, Inc.
Benson-Lehner Corp.
Consolidated Electrodynamics Corp.
Cook Electric Co., Data-Stor Div.
Dialight Corp. -- see L1
Electronic Engineering Co. of Calif.
Fairchild Space and Defense Systems
Farrington Electronics, Inc., Shirley Industrial Park, Springfield, Va. / Farrington document reader - Series ID / DESCR: reads up to 60 characters or 48 position of mark sense information on one or two lines from card or paper stock at speeds up to 312 documents per minute / USE: normally used for re-entry to an EDP system in form of magnetic tape, etc. / \$93,000 to \$175,000 / R1
Farrington Electronics, Inc., *a / Farrington page reader - Series IP / DESCR: reads full pages of alphanumeric typewritten data under program control at speeds up to 5 lines per second / USE: eliminates the necessity for re-keying of field prepared information for entry into an EDP system / \$114,000 to \$171,000 / R1
Farrington Electronics, Inc. *a / Farrington Selected Data Reader - Series SD / DESCR: reads field prepared Alpha numeric typewritten information from preprinted forms. Program control permits selection of specific data for conversion to machine language / USE: eliminates necessity for re-keying information for entry to EDP system / \$250,000 to \$300,000 / R1
Farrington Electronics, Inc. *a / Farrington self punch reader - Series 9SP / DESCR: reads numeric information recorded on tab card form sets by credit card printers and punches information into same tab card from which it was read / USE: converts imprinted tabulating cards into machine enterable form thus eliminating manual key punching / \$50,000 to \$90,000 / R1
A. Kimball Co., Div. of Litton Industries -- see D1
Librascope Group, General Precision Inc., 808 Western Ave., Glendale 1, Calif.
Philco Corp., a subsidiary of Ford Motor Co., Communications & Electronics Div., Information Systems Dept.
Tele-Dynamics Div., American Bosch Arma Corp.
Teletype Corp.

R2. READERS, CHARACTER

IBM, Data Processing Div.
IBM, Federal Systems Div.
Recognition Equipment Inc., 4703 Ross Ave., Dallas 4, Tex. / electronic retina character reader / DESCR: reads ordinary printed alphanumeric characters from most types of business documents. Special type fonts unnecessary. Includes programmed controller for computer editing and magnetic tape output / USE: basic method of data input to digital computer systems / \$250,000 to \$500,000 / R2

R2.5. READERS, FILM

Beckman & Whitley, Inc. -- see C3A
IBM, Federal Systems Div.
Itek Corporation

R3. READERS, MAGNETIC CARD

Consolidated Avionics Corp.
International Computers and Tabulators Ltd.
IBM, Federal Systems Div.

R4. READERS, MAGNETIC TAPE

Digitronics Corp., 1 Albertson Ave., Albertson, N.Y. / tape readers and handlers / DESCR: solid-state, high speed, tape readers and handlers with speeds to 1000 characters per second / - / - / R4
IBM, Federal Systems Div.
International Computers and Tabulators Ltd.
S-I Electronics, Inc. -- see T2

R6. READERS, PAPER TAPE

Coleman Electronic Systems, 3210 W. Central Ave., Santa Ana, Calif. 92702 / Series 1600 PhotoElectric Block Tape Reader / DESCR: a 20 line block tape reader reading 20 lines (140 bits) per block from standard 1" black paper tape / USE: as a programming input device / \$1500 / R6
Digitronics Corp. -- see R4
N. V. Electrologica, 214 Stadhoudersplantsoen, The Hague, The Netherlands / EL 1000 / DESCR: high speed tape reader, 1000 symb./sec., 5-, 7- and 8-level paper tape; stops before next symbol; optional: control reading station / USE: input device for electronic computers / hf 10,000 / R6
Electronic Engineering Co. of Calif.
Ferranti Electronics, Div. of Ferranti-Packard Electric Ltd., Industry St., Toronto 15, Ont., Canada / paper tape reader / DESCR: high speed paper tape readers, processing speeds up to 600 characters per second, for military and industrial data processing, programming, check-out and machine tool control applications / USE: as input devices to data processing systems / \$2425 to \$12,000 / R6
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / edge-punched card readers / DESCR: similar to tape readers except that they are able to handle edge-punched cards (paper tape coding punched on cards / USE: general data processing / - / R6
Friden, Inc. *a / paper tape readers / DESCR: operate in conjunction with Flexowriters, Computers, or other tape-controlled machines (such as numerical control devices). Electromechanical operation / USE: general data processing, numerical control / - / R6
Friden, Inc., Service Bureau Div., a subsidiary of the Singer Mfg. Co.
IBM, Federal Systems Div.
International Computers and Tabulators Ltd.
Librascope Group, General Precision Inc.
Omnitronics, Inc. -- see R7
Photocircuits Corp. -- see T9
Rheem Electronics -- see R7
Tally Corp., 1310 Mercer St., Seattle, Wash. 98109 / perforated tape readers / DESCR: panel mounted or console, asynchronous units with tape handling included or available; speeds up to 120 characters per second bidirectionally; tape width 11/16, 7/8 or 1 inch without reader adjustment / USE: reads digital data recorded in perforated tape / - / \$635 to \$945 / R6

R7. READERS, PHOTOELECTRIC

Baldwin Electronics Inc.
Beckman & Whitley, Inc.
Cook Electric Co., Data-Stor Div.
Digitronics Corp. -- see R4
Electronic Engineering Co. of Calif.
Hoffman Electronics Corp., Semiconductor Div., Hoffman Electronic Park, El Monte, Calif. 91734 / photoelectric tape and card readers / DESCR: photo voltaic silicon detectors designed in single unit or multiple array form. Converts light impulses from card or tape punched holes to electrical impulses. Standard packages available custom assemblies designed to meet equipment mounting constraints / USE: readout of card or tape holes: sensing, detection, control element / \$2 single unit to \$200 80-position / R7
International Rectifier Corp.
Librascope Group, General Precision Inc.
Omnitronics, Inc., Subsidiary of Borg-Warner Corp., 511 North Broad St., Philadelphia 23, Pa. / photoelectric tape readers / DESCR: photoelectric readers utilizing reflected light for reading and AC-coupled amplifiers for drift free operation / USE: data processing, communications, numerical control, input devices / \$1305 to \$3190 / R7
Opto-Electronic Devices, Inc., subsidiary Sigma Instruments, Inc., 170 Pearl St., Braintree, Mass. / photoelectric read heads / DESCR: complete assemblies for standard serial, parallel IBM tape, card, film and tape reader systems / USE: in reader systems for scanning punched card, film and tape / \$16 to \$130 / R7
Rheem Electronics, 5250 W. El Segundo Blvd., Hawthorne, Calif. 90251 / photocell punched tape readers &

spoolers / DESCR: unidirectional and bidirectional models from 20 to 1000 char/sec continuous and to 200 char/sec asynchronous or line at a time operation. Senses 5 to 8 channels and feed holes / USE: input unit for data processing, numerical controls, process controls, data communications, etc. / \$775 to \$1590 / R7
Rotiform Corp., 1925 Pontius Ave., Los Angeles 25, Calif. / card readers / DESCR: static readers permit manual insertion and removal at rates to 45 cards/min. Photo-electric reading of punched or marked cards. Sequential, simultaneous, or stored reading modes / USE: programmer; computer input / \$650 to \$6500 / R7
Viewlex, Inc.

R8. READERS, PUNCH CARD

AMP Inc., Eisenhower Blvd., Harrisburg, Pa. / AMP manual card reader / DESCR: reads IBM type cards; compact, easily operated / USE: verification when punching cards / - / R8
Dex Corp.
Denison Manufacturing Co., Machines Systems Div., 300 Howard St., Framingham, Mass. 01702 / Cummins Denison Dat-A-Read / DESCR: photo-electric reader which translates the machine language into standard input for data processing equipment (punch cards, punched tape) / USE: largely in retail automatic merchandise control systems / - / R8
The Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland 8, Ohio / card programmed multiple contact switch / DESCR: card reader switch offers 50 to 540 contacts for any multiple switching problem in data processing machine programming, routing, and other applications / USE: custom wired to fit any program requirement / \$195 to \$1240 / R8
IBM, Federal Systems Div.
International Computers and Tabulators Ltd.
Lexel Inc. -- see C31
Rotiform Corp. -- see R7
Taurus Corp.

R9. RECORDING PAPERS

The Bristol Co.
Eastman Kodak Co.
Hogan Faximile Corp.
Larson Instrument Co. -- see C31
Paper Manufacturers Co., 9800 Bustleton Ave., Philadelphia, Pa. 19115 / recording papers and tapes / DESCR: a complete line of recording papers and tapes; rolls or folded available in a variety of widths and colors / USE: recording medium / depends upon products / R9
Reeves Soundcraft, Div. of Reeves Industries, Inc.
Westronics, Inc.

R11. REGISTERS, SHIFT

AMP Inc. -- see C9
C & K Components, Inc.
Harman Kardon Inc., Data Systems Div.
Mace Corp., 900 N.E. 13th St., Ft. Lauderdale, Fla. / registers, shift / DESCR: encapsulated modulator units for computer manufacturer / USE: computers / \$10 to \$25 / R11
Solid State Electronics Corp.
Tempo Instrument Inc.

R12. RELAYS (Computer Types)

The Adams & Westlake Co., 1025 N. Michigan St., Elkhart, Ind. / Mercury displacement relays / DESCR: available as Nor. Open or Nor. Closed contact ratings to 100 amperes; time delays to 30 minutes. Furnished as SPST through 3 PST independent circuits. Contacts hermetically sealed / - / \$7.50 to \$35 / R12
The Adams & Westlake Co., *a / mercury wetted contact relays / DESCR: 1 switch through 4 switch forms; plug-in and printed circuit board forms; operable to 200 times per second; Form C or Form D contact styles; neutral and polarized; contacts hermetically sealed / USE: electrical switching / \$5 to \$30 / R12
Allied Control Company, Inc.
Assembly Producers, Inc.
Bourns, Inc., Trimpot Div., 1200 Columbia Ave., Riverside, Calif. / relays / DESCR: subminiature SPDT

and DPTD relays; military and commercial adjustable time delays, DPDT, SPSTNO solid state switch / USE: for switching and time delay / \$50 to \$200 / R12
Branson Corp., 41 S. Jefferson, Whippany, N.J. 07981 / Type SR and AR relays / DESCR: half crystal can miniature relays available for low level circuits with 2, 4 and 6 pole double throw output contacts / USE: system component / \$5 to \$30 / R12
The Bristol Co.
C. P. Clare & Co.
Computer Components, Inc., 88-06 Van Wyck Exp., Jamaica 18, N.Y. / reed relays / DESCR: reed relays for high speed computer switching, mercury wetted relays for video switching, miniature coaxial relays for high frequency switching, dry circuit and 5000V relays / - / \$3 to \$45 / R12
Cornell-Dubilier Electronics, Div. of Federal Pacific Electric Co.
Cramer Division, Giannini Controls Corp.
Douglas Randall Inc., a subsidiary of Walter Kidde & Co., Inc.
Guardian Electric Mfg. Co.
Harman Kardon Inc., Data Systems Div.
Hathaway Instruments, Inc., 5800 E. Jewell Ave., Denver, Colo. 80222 / Drireed relays / DESCR: printed circuit board or axial type relays; high speed, low current; Form A, B or C; 1 to 12 poles; low cost and small size / USE: computer components / \$2 to \$25 / R12
Hilburn Relay Corp.
Kurman Electric Co., Div. of Kurman Instruments Corp., 191 Newel St., Brooklyn, N.Y. 11222 / relay (computer types) / DESCR: a complete line of open, dust protected and hermetically sealed sensitive, miniature, telephone type, medium power relays with solder terminal or plug-in features / USE: in remote switching circuits / \$2.50 to \$26 / R12
Leach Corp., 405 Huntington Ave., San Marino, Calif. / electromechanical relays / DESCR: balanced armature and crystal can subminiature relays. Standard units perform 2 amp to 15 amp switching functions / USE: electrical power control and switching function / \$6 to \$75 / R12
Librascope Group, General Precision Inc.
Logitek, Inc., 42 Central Dr., Farmingdale, L.I., N.Y. / time delay relays / DESCR: time delay relays including "delay on pull in", "delay on drop-out", "true delay on drop-out" for high environment / USE: time sequencing and control / \$50 to \$250 / R12
Magnecraft Electric Co., 5575 N. Lynch Ave., Chicago, Ill. 60630 / relays / DESCR: high speed electromechanical relays / USE: computer applications / \$1.50 to \$50 / R12
Opto-Electronic Devices, Inc., subsidiary Sigma Instruments, Inc., 170 Pearl St., Braintree, Mass. / Logitron / DESCR: opto-electronic relays MPDT, SPDT electrical isolated input-output circuits / USE: logic coding-indexing, telemetry data control, digital and analog circuitry (electric variable resistor) / \$2 to \$7.30 / R12
Pacific Relays, Inc., 13915 Satcoy St., Van Nuys, Calif. 91402 / relays / DESCR: snap action construction DPDT, 28VDC, 115 VAC, 60 to 400 cycles, dry circuit switching to 10 amps resistive, 1.4" high, .93" long, .75" wide / USE: general purpose, computers, printed circuits, aircraft and missile applications / \$8 to \$20 each / R12
Phillips-Advance Control Co., 59 W. Washington St., Joliet, Ill. / mercury needle relay / DESCR: non-position sensitive mercury relay, 2 amp contact rating, unlimited mechanical life; meets 20G vibration / USE: available as printed circuit mount / \$5 to \$10 / R12
Potter & Brumfield Div., American Machine & Foundry Co., Ilwaco, 64 East, Princeton, Ind. / electromechanical relays / DESCR: high performance, mercury-wetted contact types and solid state time delay relays -- all designed for transistorized computer networks and data processing / USE: for automatic switching / \$6 to \$38 / R12
Telex/Aemco, a div. of Telex, Inc.
Thermon, Inc., 375 Fairfield Ave., Stamford, Conn. / MULTIREED Relay / DESCR: up to eight Form C contact groups in single enclosure. Novel magnetic circuit permits greater contact mass, higher ratings and longer life / USE: wide variety of logic switching and low power applications

/ \$18 to \$35 / R12
 Trepac Corp. of America, 30 W. Hamilton Ave., Englewood, N.J. 07631 / solid state relay/repeater / DESCR: high level to low level, low to high level coupling with low distortion to over 5000 bits/sec., 2 way computer interface repeater / USE: all modes input/output coupling computer teletype/computer / \$150 to \$500 / R12
 Trompeter Electronics, Inc., 7238 Eton Ave., Canoga Park, Calif. / Coaxial matrix switching systems / DESCR: remote controllable data switching / - / \$200 to \$5000 / R12
 Union Switch & Signal Div. of Westinghouse Air Brake Co.
 Ward Leonard Electric Co.
 Weston Instruments & Electronics
 Wheelock Signals, Inc., Long Branch, N.J. / glass reed relays / DESCR: long mechanical life and stable contact resistance; contact closure in less than 1 ms; carries on switching function for hundreds of millions of operations, at rated load / USE: printed circuit board component in data processing industry / - / R12

R12A. RESEARCH

The American University, Center for Technology and Administration
 Beckman & Whitley, Inc.
 Belock Instrument Corp.
 Bendix Corp., Research Laboratories Div.
 Booz, Allen & Hamilton Inc. -- see C27
 Bulova Watch Co., Inc., Systems and Instruments Div., 62-10 Woodside Ave., Woodside, N.Y. 11377 / research and development / DESCR: research and development of special-purpose electro-optical and electromechanical devices; development of automatic fabrication and control processes and machinery / - / - / R12A
 Computer Associates, Inc.
 COMRESS (Computer Research System and Software), Inc. -- see P12A
 Information International, Inc.
 Institute for Scientific Information, Inc. -- see P13
 IBM, Federal Systems Div.
 Itek Corporation
 Lutter, Maremont and Co., Inc.
 Rockford Research Institute Inc.
 The Simulmatics Corp.
 Sperry Gyroscope Co., Div. of Sperry Rand Corp.
 Systems Research Laboratories, Inc.
 Technical Operations Research, a div. of Technical Operations, Inc.
 U. S. Naval Weapons Laboratory, Computation and Analysis Lab.

R14. RESOLVERS

Avionic Division/John Oster Mfg. Co., 1 Main St., Racine, Wisc. / resolvers / DESCR: precision instrument and aircraft type units in sizes 8 through 23 / USE: in servomechanism systems / \$40 and up / R14
 The Bendix Corp., Eclipse-Pioneer Div.
 North Atlantic Industries, Inc. -- see C40
 Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / precision motors / DESCR: complete line including sizes from #5 to #33; includes servomechanisms, resolvers, synchros, PM generators, drag cup motors, A.C. induction tachometers / - / - / R14
 Vernitron Corp. -- see S8

R15. RESOLVERS, COORDINATE TRANSFORM

Vernitron Corp. -- see S8

R16. RESOLVERS, PRODUCT

Vernitron Corp. -- see S8
 Weston Instruments & Electronics

R17. RESOLVERS, SINE-COSINE

Baldwin Electronics Inc.
 Clifton Precision Products, Div. of Litton Precision Products, Inc. -- see S2A
 Vernitron Corp. -- see S8

R18. ROBOTS

Berkeley Enterprises, Inc.
 F. S. Webster Co.

R18A. RIBBONS, DATA PROCESSING

Aetna Products Co., Inc., New South

Rd. & Commercial, Hicksville, N.Y. / inked ribbons / DESCR: for computers and data processing; black record; offset (all purpose), optical scanning and ozalid / USE: for printing from high speed computers / - / R18A
 Anelux Corp., 150 Causeway St., Doston, Mass. 02114 / Anelux High Speed Ribbons / DESCR: made exclusively for use on Anelux High Speed Printer Systems; available for all printer models / USE: printout on Anelux Printers / - / R18A
 The Bunker-Ramo Corp.
 Columbia Ribbon & Carbon Mfg. Co.
 Franklin Ribbon & Carbon Co.
 Interchemical Corp., 417 E. 7th St., Cincinnati, Ohio 45201 / ribbon, data processing, reinking / DESCR: service to renew used ribbons by restoring expended ink / USE: to increase ribbon life / price depends on ribbon and quantity / R18A
 Interchemical Corp., *a / Ribbons, computer and data processing / DESCR: for all high speed printers / USE: result recording / - / R18A
 Interchemical Corp. *a / Tab carbons / DESCR: for every type of high speed printer, special type / USE: printing on multiple forms / R18A
 Labelon Corp., 10 Chapin St., Canandaigua, N.Y. / computer printer ribbons / DESCR: inked ribbons for use on all types of tabulating equipment, high-speed printers and computer printers / USE: printout from computing equipment / \$10 to \$500 per dozen / R18A
 New Ero Ribbon & Carbon Co., Inc., 1218 Cherry St., Philadelphia 7, Pa. / computer and data processing ribbons / DESCR: for IBM 1403, Rem. Rand Univac I, II, III and 1004, Anelux, Shepard, Burroughs, Honeywell, RCA and all other models / USE: print out / various / R18A
 Edward Ochman Systems -- see P1
 Old Town Corp., 750 Pacific St., Brooklyn, N.Y. 11238 / EDP printer ribbons / DESCR: complete line in a variety of ink densities; upon request a special grade ink for use in preparation of offset mats. 100% nylon fabric eliminates wearing, sagging and uneven winding / - / - / R18A
 Quest Manufacturing Co.
 Write Inc.

S1. SCANNERS

Adcom Corp., 9732 Cozycroft Ave., Chatsworth, Calif. / multiplexers, 401 series / DESCR: analog multiplexers, 16, 32, and 64 channel systems. Input range up to ± 10 volts; sample rates to 250KC / - / \$2500 to \$10,000 / S1
 Belock Instrument Corp., 112-03 14th Ave., College Point, L.I., N.Y. 11356 / scanners / DESCR: solid-state high resolution scanners with high reliability and repeatability, digital output; no vacuum tubes or moving parts; operates in visual and near infra-red / USE: film scanners, attitude reference systems, star trackers / - / S1
 Cohu Electronics, Inc., Kin Tel Div., P.O. Box 623, San Diego, Calif. 92112 / input scanner / DESCR: automatically or manually scans any selected group of channels (up to 400 points). Single plane, wide angle readout indicates channels 000 to 999 / USE: with either digital or analog measuring or recording instruments / \$2500 / S1
 James Cunningham, Son & Co., Inc.
 Fedder Electronics Corp.
 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
 Gulton Industries, Inc.
 Hagan Controls Corp., 250 Mt. Lebanon Blvd., Box 11606, Pittsburgh, Pa. 15228 / alarm monitor (AIM) / DESCR: permits remote supervision. Rapidly scans analog voltages, thermocouple emfs, resistance bulbs, contact closures. Provides alarm set points / USE: steel, utility, nuclear, water plants / price variable to suit particular system / S1
 Hogan Faximile Corp.
 Houston Instrument Corp.
 IBM, Data Processing Div.
 Itek Corporation
 F. B. McLaren & Co., Inc., 15 Stepar Pl., Huntington Station, L.I., N.Y. / scanners / DESCR: provides servod 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 / variable, depending on application / S1
 Quindar Electronics, Inc., 5 Lawrence St., Bloomfield, N.J. / QSS-1 Supervisory Scanner / DESCR: time division multiplex system converts parallel binary input into serial pulse code (RT2); can be used to modulate a carrier / USE: alarm monitor, remote control system, digital telemeter / \$800 to \$4000 / S1
 RCA Electronic Data Processing, Cherry Hill, Camden 8, N.J. / RCA Videoscanner / 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.
 Systems Engineering Laboratories, Inc., P.O. Box 9140, 4066 N.E. Fifth Ave., Fort Lauderdale, Fla. 33310 / low-level multiplexer / DESCR: supplied with 6 to 50 channel capacity with inputs as low as ± 4 mv with speeds from DC to 15 KC, and is solid-state throughout / - / - / S1

S2A. SERVOMECHANISMS

AmTron Inc. -- see C32
 Avionic Division/John Oster Mfg. Co., 1 Main St., Racine, Wisc. / servomechanisms / DESCR: custom make servomechanisms to customer specification / USE: military, government and commercial aircraft / - / S2A
 Battelle Memorial Institute
 Boonshaft & Fuchs, Div. of Daystrom, Inc., Hatboro Industrial Park, Hatboro, Pa. / computer control systems / DESCR: wind tunnels, hydraulic shakers, shock machines, programmable centrifuges / USE: ground support of dynamic environments / \$5000 to \$1,000,000 / S2A
 Clifton Precision Products, Div. of Litton Precision Products, Inc., Marble at Broadway, Clifton Heights, Pa. / servos / DESCR: electro-mechanical devices / USE: for the transmission of intelligence, electrically / - / S2A
 Control Data Corp., Control Systems Div., 4455 Miramar Rd., La Jolla, Calif. / electric actuators / DESCR: solid-state controlled power actuators used as final control elements with industrial analog or direct digital control applications / USE: variable-speed final drives for large valves, dampers and air vanes / - / S2A
 The Electric Tachometer Corp., 60th & Upland Sts., Philadelphia, Pa. 19142 / servomechanisms / DESCR: electro-mechanical assemblies; synchros, servomotors, counters, tachometer generators, etc.; made to order / USE: according to application / \$200 to \$2000 / S2A
 Evershed & Vignoles Ltd.
 Hagan Controls Corp. -- see A4, C32, D1, S1
 Industrial Control Co., Central Ave. at Pimelawn, E. Farmingdale, L.I., N.Y. 11735 / servo-driven computer accessory equipment / DESCR: servo multipliers and function generators, servo digitizers / USE: analog computation and as conversion input device for digital computer / \$500 to \$1500 / S2A
 IBM, Federal Systems Div.
 Librascope Group, General Precision, Inc. F. B. McLaren & Co., Inc., 15 Stepar Pl., Huntington Station, L.I., N.Y. / servo systems / DESCR: custom designed electromechanical 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 / variable, depending on application / S2A
 Midwestern Instruments, Inc.
 Moog Servocontrols, Inc.
 Pace Controls Corp., 661 Highland Ave., Needham Hgts., Mass. 02194 / incremental servo motors (stepping motors) / DESCR: step servo motor line from 2 oz. in. to 90 in. lb. of torque for precise motion control in digital positioning systems / USE: precise control of motion and position / \$100 to \$1000 / S2A
 Photocircuits Corp., 31 Sea Cliff Ave., Glen Cove, N.Y. / printed circuit motors / DESCR: fast response motors utilizing a printed circuit as the armature / USE: capstan drives and spoolers / \$90 to \$500 / S2A
 Reeves Instrument Co.
 Sangamo Electric Co. -- see R14
 Sigma Instruments, Inc., 170 Pearl St.,

Braintree, Mass. / cyclonome / DESCR: single phase, high torque, synchronous stepping motor - 0-500 steps/sec. / USE: positioning, counting, converting, synchronizing / \$30 to \$150 / S2A
 M. Ten Bosch, Inc.
 Theta Instrument Corp., Saddle Brook, N.J. 07663 / digital servo / DESCR: accepts input from remote synchros/resolvers and produces 4-digit illuminated display plus electrically coded output / USE: test equipment, A-D converter / \$1500 to \$2000 / S2A
 Vernitron Corp., 50 Gazzo Blvd., Farmingdale, L.I., N.Y. / servo motors / - / USE: as a drive in computer / \$35 to \$550 / S2A
 Warner Electric Brake & Clutch Co., Beloit, Wisc. 53512 / precision clutches and brakes / DESCR: miniature and precision clutches and brakes, electrically actuated, single disc, friction; analog to digital converters, modular combinations including precision potentiometers, synchros, gearheads, etc. / - / \$25 to \$300 / S2A

WESTON HYDRAULICS, LTD., 7500 Tyrone Ave., Van Nuys, Calif. / SERVO-MECHANISMS / DESCR: analog and digital electro-hydraulic and electro-pneumatic servo actuators; valves; and control systems. For use in processing systems and aerospace control applications / USE: as muscle for actuation of component to be positioned / \$400 to \$250,000 / S2A

S3. SIMULATORS

Aircraft Armaments, Inc., York Rd., Cockeysville, Md. 21030 / simulators / DESCR: air traffic control, missile training (REDSTONE, SERGEANT, ATLAS, POLARIS, NIKE-HERCULES), radar target, 3-axis flight, space vehicle, anti-submarine warfare / USE: training, test, and evaluation of personnel as well as components and systems / custom / S3
 Belock Instrument Corp., 112-03 14th Ave., College Point, L.I., N.Y. 11356 / simulators / DESCR: generation of coordinate information for simulation of moving targets on radar scopes; multiple targets can be independently maneuvered in speed, course and altitude / USE: training of radar operators / \$50,000 to \$200,000 / S3
 Boonshaft & Fuchs, Div. of Daystrom Inc. -- see S2A
 Computer Products, Inc.
 COMRESS (Computer Research System and Software), Inc. -- see P12A
 Cybertronics Inc. -- see G1
 Image Instruments, Inc. -- see I2
 IBM, Federal Systems Div.
 Link Group, General Precision, Inc. Systems Div., Binghamton, N.Y. / simulators / DESCR: aerospace simulators, aircraft simulators, digital and analog computers, visual displays / USE: training, proficiency and research development / S3
 Mellonics Systems Development, Inc., 300 Sunnyvale Office Center, Sunnyvale, Calif. / systems simulators / DESCR: use of threaded lists in developing utilization statistics and response times of complex systems through simulation / USE: to analyze proposed, existing and effect of modification to large-scale applications / - / S3
 Philco Technological Center -- see E1
 Societe d'Electronique et d'Automatisme Stellarmetrics, Inc.
 Tab Products Co.

S4. STORAGE SYSTEMS

AmTron Inc. -- see C32
 Consolidated Electrodynamics Corp.
 Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn 16, N.Y. / mobile tape and card filing system / DESCR: permits the storage of more filing equipment through method of aisle elimination. Storage units roll on floor tracks with only 3" aisles between rows / USE: to save space or add equipment / - / S4
 FMA, Inc. -- see I2
 Harman Kardon Inc., Data Systems Div.
 Image Instruments, Inc. -- see I2
 IBM, Federal Systems Div.
 Librascope Group, General Precision, Inc.
 Trak Electronics Co., Inc.

Products and Services

S5. STORAGE SYSTEMS, MAGNETIC

Bryant Computer Products -- see M2, S9
Cook Electric Co., Data-Store Div.
Digital Development Corp. -- see M2
IBM, Federal Systems Div.
Librascope Group, General Precision, Inc.

S6. SWITCHES

Airflyte Electronics Co.
The Bristol Co.
Bulova Watch Co., Inc., Systems and Instruments Div. -- see T11.3
Centralab, the Electronics Div. of Glove-Union Inc., P.O. Box 591, Milwaukee, Wis. 53201 / rotary lever and slide switches / DESCR: rotaries -- 15/16" diameter through 2-13/16" diameter available for military and commercial applications. Two lever styles, three styles of slide / USE: circuit switching, etc. / 10¢ to \$70 (production quantities) / S6
Chicago Switch Div., F & F Enterprises, Inc., 1733 Milwaukee Ave., Chicago, Ill. 60647 / long-life panel switches / DESCR: push switches, illuminated and non-illuminated, momentary and alternate action, push on push off and color coded information series indicating status of subject circuit / USE: on control panel or test equipment / \$2.50 to \$10 each / S6
Clarostat Mfg. Co., Inc.
Computer Components, Inc. -- see R12
James Cunningham, Son & Co., Inc.
Dialight Corp. -- see LI
Diamond Electronics, Diamond Power Specialty Corp.
Engineered Electronics Co.
Electro-Mec Instrument Corp.
Electro-Minatures Corp.
General Electric Co., Receiving Tube Dept.
Guardian Electric Mfg. Co.
Industrial Electronic Engineers, Inc., 5528 Vineland Ave., North Hollywood, Calif. / Lumi-switch, illuminated push-button switch / DESCR: available with 4 or 6 lamps, providing 2 or 3 color capability with 2 lamp reliability per color / USE: to provide color indications with switching capability / \$14.35 to \$18.75 / S6
ITT General Controls Inc.
Kollmorgen Corp.
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 / \$10 to \$50 / S6
Licor Div., Illinois Tool Works Inc., 6615 W. Irving Park Rd., Chicago 34, Ill. / environment-free switches / DESCR: true hermetically sealed with max. leak rate of 1×10^{-8} cc/sec.; environment-free sealed in rugged housing; subminiature environment free switch / USE: where extreme environments are prevalent / \$8.70 to \$40 / S6
Licor Div., Illinois Tool Works Inc., *a / illuminated pushbutton switches / DESCR: single lamp incandescent/ neon, two bulb incandescent, 4 lamp incandescent; one to eight pole contact arrangements, indicator-only, and solenoid-held types, momentary and maintained action / USE: indicator panel stations / \$5.40 to \$20 / S6
Licor Div., Illinois Tool Works Inc., *a / precision snap action switches / DESCR: four sizes from subminiature to heavy duty of double-break snap switches with ratings of max. 15 amps. 20 million mechanical cycles nominal. All ratings based on 100,000 elect. cycles min. / USE: basic switch for direct cam or switches fitted to actuators / \$1.52 to \$4.70 / S6
Micro Switch, a Div. of Honeywell, 11 E. Spring St., Freeport, Ill. / series 2 lighted pushbutton switches / DESCR: series 2 modular pushbutton switches offer round or rectangular display. Over 80 different colored display screens are available. 30 different switch units offer wide choice in circuitry and power handling capacity / USE: control and display functions / \$4.70 to ? / S6
Micro Switch, a Div. of Honeywell *a / interlock switches / DESCR: safety devices for computers and other electronic equipment; they cut power when a door, drawer or service panel is opened; can be manually set for testing and automatically reset when door or drawer is closed / USE: on safety device / \$2.60 to \$16 (sub. to quantity discounts) / S6
Micro Switch, a Div. of Honeywell *a / subminiature basic switches / DESCR: Tiny SPDT "ISX" switches: 1/28 ounce;

7 amp. 28 vdc or 115/230 vac capacity; available with either silver or gold contacts / USE: control and limit applications / \$2.50 (sub. to quantity discounts) / S6
Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility Pendar, Inc.
Philco Corp., a subsidiary of Ford Motor Co., Communications & Electronics Div., Information Systems Dept.
Sealctro Corp., 225 Hoyt Ave., Mamaroneck, N.Y. / Actan Programmer / DESCR: field adjustable multi-circuit programming switch with multiple cam ON/OFF functions / USE: to sequence, scan, program, code generation, translation / \$40 and up / S6
Switchcraft, Inc., 5555 N. Elston Ave., Chicago, Ill. 60630 / lever switches / DESCR: complete variety of lever switches, 2 and 3 positions, locking, non-locking, illuminated and non-illuminated, 6 volt or 28 volt lamps. Silver, palladium or gold contacts / USE: computer or off-line processor control panels / 95¢ to \$4.50 depending upon quantity / S6
Switchcraft, Inc., *a / push-button switches / DESCR: single or multiple station push-button units. Locking, non-locking, inter lock, all-lock and many other functions. Illuminated, non-illuminated 6V, 28V or neon / USE: analog and digital computer control panels / 95¢ to \$1000 depending upon quantity, size, stations, etc. / S6
Sylvania Electric Products, Inc., Semiconductor Div. -- see C11
Trompeter Electronics Inc. -- see R12
Zoron, Inc.

S7. SWITCHES, STEPPING

Burroughs Corp., Electronic Components Div., P.O. Box 1226, Plainfield, N.J. / BEAM-X R Switches & Modules / DESCR: electronic switching device which uses crossed magnetic fields to control the formation and switching of an electron beam / USE: counting, distribution, etc. / \$17 to \$29 / S7
C. P. Clare & Co.
Guardian Electric Mfg. Co.
Hathaway Instruments, Inc.
Hillburn Relay Corp., 55 Milbar Blvd., Farmingdale, L.I., N.Y. / series 511 high speed digital stepping switch / DESCR: features direct visual and PC readout - auto-homes at 50 pps - carries at 9, used in computers, counters and test equipment for programming and visual display / USE: counter digital clock / \$25 to \$60 / S7
Ledex Inc. -- see S6

S8. SYNCHROS

Avionic Division/John Oster Mfg. Co., 1 Main St., Racine, Wis. / synchros / DESCR: precision instrument and aircraft type units in sizes 8 through 15 -- available in tandem and other special units / USE: servomechanism systems / \$30 and up / S8
Clifton Precision Products, Div. of Litton Precision Products, Inc. -- see S2A
IMC Magnetics Corp., Western Div.
North Atlantic Industries, Inc. -- see C40
Sangamo Electric Co. -- see R14
Vernitron Corp., 50 Gazza Blvd., Farmingdale, L.I., N.Y. / synchros and synchro resolvers / DESCR: electro-magnetic device / USE: as a transducer / \$50 to \$250 / S8

S9. SYSTEMS ENGINEERING

Abacus Information Management Co.
Aircraft Armaments, Inc. -- see S3
Airpax Electronics, Inc.
American Electronic Controls Co. -- see C54
Auerbach Corp.
Battelle Memorial Institute
Booz, Allen & Hamilton Inc. -- see C27
Bryant Computer Products, 850 Ladd Rd., Walled Lake, Mich. 48088 / electronic systems / DESCR: custom-designed memory systems; will design an entire memory 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 / - / S9
The Bunker-Ramo Corp.
Coleman Electronic Systems, 3210 W. Central Ave., Santa Ana, Calif. 92702 / data recording systems / DESCR: modular equipment for data logging systems. Included are control units

for parallel entry printers, tape punches, card punches or flexwriters / USE: engineered into complete data logging systems / \$1200 and up / S9
Controlmag Laboratories
DCF Systems Ltd., Malton, Ontario, Canada / systems engineering / DESCR: systems analysis and operations research; systems engineering, systems management / - / S9
Documentation, Inc.
Hagan Controls Corp. -- see A4, C32, D1, S1
Hollander Associates
Intercontinental Instruments, Inc.
IBM, Federal Systems Div.
Lutter, Maremont and Co., Inc.
Management Assistance Inc.
Mellonics Systems Development, Inc., 300 Sunnyvale Office Center, Sunnyvale, Calif. / systems engineering / DESCR: over-all design and specification for equipment and software interfaces for large-scale computer-controlled satellite systems / USE: research, development, and establishment of operational programs / - / S9
Packard Bell Computer, a div. of Packard and Bell Electronics
Pulse and Digital Laboratories, Inc., 417 Tremont Ave., Orange, N.J. / digital manometers / DESCR: Type-B series sonar-manometer is an electronic primary standard, automatic, readout, digital system mercurial manometer / USE: to measure air and fluid pressure / \$2900 to \$4600 / S9
Pulse and Digital Laboratories, Inc., *a / liquid level controller / DESCR: a non-mechanical, sonic, probe and control unit; temperature ranges from cryogenic to 400°F / USE: to monitor and sense fluid level / \$75 to \$195 / S9
Pulse and Digital Laboratories, Inc., *a / - / DESCR: Model 75A displays liquid level remotely by means of a meter and transistorized unit. Can measure acids, caustics, cyogenic fluids or liquids to 400°F / USE: to measure and display liquid levels remotely / \$295 to \$450 / S9
Redifon Limited, Computer Dept.
Sperry Farragut Co., Div. of Sperry Rand Corp.
Statistical Tabulating Corp.
The Telegister Corp., 445 Fairfield Ave., Stamford, Conn. / systems engineering / DESCR: complete system engineering from studies, analyses through all stages of R & D to design and implementation of individual equipment and large-scale data-processing systems / - / upon request / S9
U.S. Air Force, Computation Div., Data Services Center
U.S. Naval Weapons Lab., Computation and Analysis Lab.
URS Corp.
Weston Hydraulics, Ltd. -- see S2A

T2. TAPE HANDLERS

Amplifier Corp. of America, 398 Broadway, New York 13, N.Y. / tape handlers / DESCR: special cartridges for protection, simplified handling and storage / USE: in endless-loop, punched-tape programs / - / T2
Capital Business Service
Cycle Equipment Co.
Digitronics Corp. -- see R4
Dresser Products Inc.
Kinologic Corp.
Omnitronics, Inc., Subsidiary of Borg-Warner Corp., 511 North Broad St., Philadelphia 23, Pa. / paper tape reels / DESCR: unidirectional and bidirectional tape handler capable of speeds up to 100" per second in either direction with reel sizes up to 10 1/2" / USE: to feed and take up paper tape from readers, punches and recorders / \$765 to \$2000 / T2
Photocircuits Corp. -- see T9
Potter Instrument Company, Inc., 151 Sunnyside Blvd., Plainview, L.I., N.Y. 11803 / tape transports and printers / DESCR: magnetic tape transports and systems, magnetic record/playback heads, perforated tape readers and spoolers, high speed printers and systems, random access memory systems, precision measuring equipment / USE: computers, electronic data processing / \$3000 to \$7000 / T2
Rheem Electronics, 5250 W. El Segundo Blvd., Hawthorne, Calif. 90251 / tape handlers (spoolers) / DESCR: 150 to 1000 char/sec.; constant tape tension; self-adjusting brakes. Use standard NAB reels. Broken tape and no tape sensing. High speed bidirectional rewind / USE: with punched tape readers / \$725 to \$2750 / T2
S-1 Electronics, Inc., 103 Park Ave., Nutley 10, N.J. / magnetic tape trans-

ports / - / USE: for writing and reading digital data under unusually severe environments; for economical off-line data gathering and transmission / \$2500 to \$20,000 / T2

T3. TAPE, MAGNETIC

Audio Devices, Inc.
Computron Inc., 122 Calvary St., Waltham, Mass. 02154 / COMPUTAPE / DESCR: high quality, high density, magnetic tape for computer and instrumentation exclusively. Guaranteed reliability of 555 or 800 bits per inch (NRZ) / USE: computers and instrumentation / available upon request / T3
Control Data Corp.
Cybetronics Inc., 132 Calvary St., Waltham, Mass. 02154 / magnetic tape rehabilitation equipment and systems / DESCR: a complete line of dry process cleaners, certifiers; complete testing systems for computer and instrumentation tapes. Equipment available to work with standard tape drives / USE: cleaning, certifying and testing magnetic tapes / \$1000 to \$26,000 / T3
Cybetronics Inc., *a / magnetic tape rehabilitation services / DESCR: a "magnetic tape laundry" rehabilitation service for cleaning, recertification, testing and repair of computer and instrumentation tapes / USE: rehabilitate customer magnetic tapes / \$2 to \$12.50 / T3
Datamec Corp.
General Dynamics/Electronics, 1400 North Goodman St., Rochester, N.Y. 14601 / SC-303 step-drive magnetic tape transport / DESCR: The SC-303 reads or writes magnetic tape incrementally, asynchronously or synchronously, at speeds up to 300 characters per second. It is used for buffering, speed conversion, asynchronous/synchronous conversion, computer input/output, message composition. Serves as a replacement for paper tape, with higher performance, greater reliability, and less radiated interference / USE: incremental reading or recording of data on magnetic tape / \$3000 to \$5000 / T3
IBM, Federal Systems Div.
Memorex Corp.
Mincon Div., Minnesota Mining and Manufacturing Co., 300 S. Lewis Rd., Camarillo, Calif. / TICOR II magnetic tape system / DESCR: 400 cps to 1.5 mc frequency response of all solid state record/reproduce system which provides 0.5 msec. event to event time base stability and is fully RFI shielded / USE: with telemetry equipment / varies with requirement / T3
Reeves Soundcraft, Div. of Reeves Industries, Inc.

T3A. TAPE, FILING SYSTEMS

Dolin Metal Products, Inc. -- see S4
General Fireproofing Co., E. Dennick Ave., Youngstown, Ohio 44501 / data processing accessory equipment / DESCR: a complete line of equipment necessary for storage and transportation of tab cards, panels, tapes, forms, supplies and other allied materials / - / T3A
International Computers and Tabulators Ltd.
Ray Myers Corp., 1302 E. Main St., Endicott, N.Y. / tape library, storage and mobile accessories / - / - / - / T3A
Edward Ochman Systems -- see P1
Tab Products Co., 550 Montgomery St., San Francisco, Calif. / data processing auxiliary and computer room equipment / DESCR: storage and handling equipment for punched cards, computer reels and other materials / USE: storage and handling / - / T3A
Wright Engineering Co., Inc.
Wright Line, a div. of Barry Wright Corp.

T4. TAPE, READERS

IBM, Data Processing Div.
Kinologic Corp.
Photocircuits Corp. -- see T9
S-1 Electronics, Inc. -- see T2

T5. TAPE RECORDERS

Amplifier Corp. of America, 398 Broadway, New York 13, N.Y. / tape recorders / DESCR: transistorized mono and stereo magnetic tape recorders and tape decks; also continuous loop tape recorders and playback equipment / - / - / T5

Consolidated Electrodynamics Corp., 360 Sierra Madre Villa, Pasadena, Calif. 91109 / magnetic tape recorders/reproducers / DESCR: analog and digital systems available. Types include portable, 1.5-mc response, extra wide and double bandwidth, general laboratory, high-speed digital, and continuous loop / - / T5
 Cook Electric Co., Data-Stor Div. The Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex. / FM recorder/reproducer / DESCR: record to 33 days on one reel of 1" tape (7200 ft.). Real-time playback; speeds from .03 to .10 ips. Frequency range: .01 to 18 cps. Channels: 7 or 14 / USE: long-term recording of surveillance data / \$8500 to \$15,000 / T5
 Honeywell, Denver Div.
 IBM, Data Processing Div.
 IBM, Federal Systems Div.
 Kinelogic Corp.
 Lockheed Electronics Co.
 Midwest Instruments, Inc.
 Pacific Electro Magnetics Co., Inc. Sanborn Company
 S-I Electronics, Inc. -- see T2

T5A. TAPE REELS

Edward Ochman Systems -- see P1
 Pro-Tex Reel Hand Co.

T6. TAPE, PAPER

Arvey Corp., 3500 N. Kimball Ave., Chicago, Ill. 60618 / perforator tapes, reinforced / DESCR: laminated polyester tape; metalized or paper and film combinations / USE: for computer programming, automatic checkout, and numerical control / - / T6
 Electronic Engineering Co. of Calif. Friden, Inc. -- see P4
 Paper Manufacturers Co., 9800 Bustleton Ave., Philadelphia, Pa. 19115 / film, fibre and paper tapes / DESCR: a complete line of perforator and programming tapes; variety of widths, diameters and colors available / USE: for communications, computers, data processing, numerical control and office machines / depends upon products / T6

T7. TAPE, PAPER-FILLING SYSTEMS

Edward Ochman Systems -- see P1
 Ohio Envelope Co.

T8. TAPE, PAPER-PUNCHES

Addo-X, Inc., ADP Div., 270 Park Ave., New York 17, N.Y. / paper tape punches / DESCR: 10 key tabulating carriage adding or accounting machine with tape punch, 5-8 channel. Flexible programming. Check-digit verifier. Automatic punch lock on operator error / USE: data capture equipment / \$2500 to \$4000 / T8
 J. H. Bunnell & Co.
 Connecticut Technical Corp.
 Creed & Co., Ltd. (assoc. of ITT Corp.)
 Electronic Engineering Co. of Calif. Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / tape punches / DESCR: used with Flexowriters, Computers, and allied equipment to prepare a second paper tape as a by-product of producing original documents / USE: general data processing / - / T8
 General Instrument Corp., Magne-Head Div., 3216 West El Segundo Blvd., Hawthorne, Calif. / P76 Tape Punch / DESCR: 20 character per second punching; paper or mylar tape; sound-proof cabinet or rack mount available. 5, 6, 7, or 8-channel tape / USE: data recording, reproducing / \$850 to \$1500 / T8
 IBM, Federal Systems Div.
 Ledex Inc. -- see C31
 Librascope Group, General Precision, Inc.
 Tally Corp., 1310 Mercer St., Seattle, Wash. 98109 / paper tape perforators / DESCR: panel mounted, asynchronous units, tape handling included or available; speeds up to 150 characters per second. Punched tape will meet EIA standards, may be 5, 6, 7, or 8 level / USE: recording of digital data in perforated tape / \$1000 to \$2850 / T8
 Tally Corp., *a / Portable Printing Perforator Model 430 / DESCR: table-top, keyboard entry tape perforator. A printed character is placed on tape adjacent to punched code. Unit contains 1000 feet of tape. Operated at up to 8 characters per second / USE: manual perforated tape preparation from keyboard entry / \$1395 / T8

T9. TAPE, PAPER-READERS

AmTron Inc. -- see C32
 Coleman Electronic Systems -- see R6
 Electronic Engineering Co. of Calif. Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / tape readers / DESCR: used with Flexowriters, Computers, and allied equipment as second input source / USE: general data processing / - / T9
 Librascope Group, General Precision, Inc.
 Opto-Electronic Devices, Inc., subsidiary Sigma Instruments, Inc. -- see R7
 Photocircuits Corp., 31 Sea Cliff Ave., Glen Cove, N.Y. / photoelectric tape readers and tape handlers / DESCR: readers and handlers both utilize printed circuit motors / - / \$1490 to \$3990 / T9
 Rheem Electronics -- see R7
 Tally Corp. -- see R6
 Wang Laboratories, Inc., 636 North St., Tewksbury, Mass. / punched tape block reader / DESCR: parallel readout device utilizing the fact that the tape is already a storage medium, thus eliminating the necessity of providing complicated and expensive electronic buffer storage units / USE: for programming testers, numerical controls, etc. / \$1200 to \$2500 / T9

T10. TELEMETERING SYSTEMS

Aircrafts Armaments, Inc. -- see C25
 Airpax Electronics, Inc.
 Baldwin Electronics Inc.
 The Bendix Corp., Bendix-Pacific Div., 11600 Sherman Way, No. Hollywood, Calif. 91605 / telemetering equipment / DESCR: FM/FM and PCM transmitting and receiving components, subsystems and systems for aircraft missile and space programs / USE: transmission or reception of data via radio frequency link / variable / T10
 CG Electronics Div., Gulton Industries, Inc.
 Consolidated Electrodynamics Corp. Electro-Mechanical Research, Inc. Evershed & Vignoles Ltd.
 General Instrument Corp., Defense and Engineering Products Group, Radio Receiver Div., Andrews Rd., Hicksville, N.Y. 11802 / telemetering systems / DESCR: microwave telemetry transmitter -- a lightweight compact equipment capable of 15 watts. CW output power in the 2-3 kmc telemetry band / USE: missiles, aircraft and aerospace environment / \$3000 to \$12,000 / T10
 The Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex. / FM analog data telemetry / DESCR: transmits 1 to 7 channels of 0-35 cps data over telephone, radio, or microwave circuits. Systems accuracy to 1% / USE: voice frequency transmission / \$2550 to \$12,000 / T10
 Giannini Scientific Corp., 185 Dixon Ave., Amityville, N.Y. / Giannini/Hammard standardized tone signaling equipment / DESCR: permits telemetering of data information and supervisory control of remote and varied electrical and mechanical functions and operations. Features: solid state circuitry and modular construction / USE: supervisory control systems for remote installation / on request / T10
 Gulton Industries, Inc.
 Harman Kardon Inc., Data Systems Div. IBM, Federal Systems Div.
 Leach Corp., 405 Huntington Dr., San Marino, Calif. / telemetry transmitters / DESCR: 2-watt and 4-watt transistorized FM telemetry transmitters operate on standard telemetry band of 215 to 265 Mc. Feature good RF stability, low incidental FM and maintenance of power output over environment / USE: transmitter in telemetry systems / \$1000 to \$10,000 / T10
 Logitek, Inc., 42 Central Dr., Farmingdale, L.I., N.Y. / time code generators / DESCR: generates unique digital code representative of elapsed time for recording on magnetic tape and simultaneous transmission via telemetry / USE: for data correlation / \$3000 to \$10,000 / T10
 Midwest Instruments, Inc.
 Moore Associates, Inc.
 Parzen Research, Inc., 48 Urban Ave., Westbury, L.I., N.Y. / telemetering systems / DESCR: design and fabrication of systems combining digital and radio frequency or audio frequency techniques; computer capability / USE: industrial applications and precision military systems / - / T10
 Tempo Instrument Inc.

Transitel International Corp., 615 Winters Ave., Paramus, N.J. / telemetering systems / DESCR: high-speed data gathering systems for 3kc communications links (wire line, microwave or radio); bit rates to 3000 per second; solid state digital circuitry for encoding, decoding, etc. / USE: industrial (economic dispatch of power systems by computer) / \$20,000 to \$500,000 / T10
 Wiancko Engineering Div., Tamar Electronics, Inc.

T11.2. THIN-FILMS, MAGNETIC

AmTron Inc. -- see C32
 Burroughs Corp., Electronic Components Div., P.O. Box 1226, Plainfield, N.J. / magnetic thin film memory planes / DESCR: films are deposited on a substrate while under the influence of a magnetic field / USE: high speed memory systems for computers / \$50 to \$500 / T11.2
 IBM, Federal Systems Div.
 Leach Corp., 405 Huntington Dr., San Marino, Calif. / electronic timing devices / DESCR: small solid state and relay output timers offer timing capabilities from 50 msec to three years. Accuracies range from 10% to 0.02%, depending upon type of oscillator used / USE: timing or intervalometer functions / \$50 to \$400 / T11.2

T11.3. TIMING DEVICES

The Adams & Westlake Co. -- see R12
 American Electronic Controls Co. -- see C54
 Amplifier Corp. of America, 398 Broadway, New York 13, N.Y. / timing devices / DESCR: special electronic timing and control devices to order / - / - / T11.3
 Belock Instrument Corp.
 Bulova Watch Co., Inc., Systems and Instruments Div., 62-10 Woodside Ave., Woodside, N.Y. 11377 / ACCUTRON timers, clocks, and switches / DESCR: available models, with ACCUTRON 1.5 second/day movement accuracy, include 12- and 24-hour dials in aircraft sizes; calendar clocks; long duration timers; cycle timers for periodic switch closures / USE: interval timers, programmers, time displays / \$125 to \$1260 / T11.3
 CG Electronics Div., Gulton Industries, Inc.
 Chrono-Log Corp., 2583 West Chester Pike, Broomall, Pa. 19008 / Model 729 programmable clocks / DESCR: solid-state clock/calendars furnish date and real-time readings to IBM computers under program control; for computers with 729II, IV, V, VI, 7330 tape units / USE: as accounting clock, program timer, monitor clock / \$2500 to \$4000 / T11.3
 Controlmag Laboratories
 Cramer Division, Giannini Controls Corp.
 Eldorado Electronics, 601 Chalomard Rd., Concord, Calif. / Model 703G time interval counter / DESCR: range 10 nanoseconds to 10 seconds, 1.0 Mc osc input, 3 to 9 decades, Nixie readout, ± 2 to ± 10 volt input 50 ohms, 10mv input stability, slope 25 nanoseconds/volt, reset rate 20kc, solid state / USE: measures time intervals of 10 nanoseconds to 10 seconds / \$2700 (7 decades), additional decade \$100 / T11.3
 Eldorado Electronics, *a / Model 793 time interval counter / DESCR: range/nanosecond to 1 second ± 0.5 nanosecond, up to 9 decades, Nixie readout with window filter, input sensitivity ± 1 to ± 100 volts 50 ohms, slope 0.2 volt/nanosecond, reset rate 10kc, solid state / USE: measures time intervals of 1 nanosecond to 1 second / \$6500 (6 decades), additional decade \$100 / T11.3
 Giannini Controls Corp.
 G-V Controls Inc., 101 Okner Parkway, Livingstone, N.J. 07039 / Electronic time delay relays / DESCR: very accurate reliable timing devices / USE: high reliability timing applications / - / T11.3
 G-V Controls Inc., *a / thermal time delay relays / DESCR: hermetically sealed and unsealed relays / USE: all timing applications / \$2.55 to \$19.90 / T11.3
 The A. W. Haydon Co., 232 No. Elm St., Waterbury, Conn. / encoders and time code generators / DESCR: electro-mechanical and electronic time code generators designed to produce time base signals with or without dial face or digital readout /

USE: in TXM, computer, navigational and data processing equipment / - / T11.3
 The A. W. Haydon Co., *a / timing devices / DESCR: electromechanical time delay relays, repeat cycle timers, elapsed time indicators, events counters and digital/dial face stoplocks in both off-the-shelf and highly customized units / USE: to control and indicate operation of military and industrial electronic and electromechanical systems and equipment / \$15 to \$3000 / T11.3
 Logitek, Inc., 42 Central Drive, Farmingdale, L.I., N.Y. / programmers / DESCR: generates preselected program functions to operate devices in space craft. Used for control and sequencing / USE: control of re-entry vehicles satellites / \$1000 to \$20,000 / T11.3
 Logitek, Inc. -- see T10
 Parzen Research, Inc., 48 Urban Ave., Westbury, L.I., N.Y. / timing equipment / DESCR: design and fabrication of high-stability timing equipment incorporating frequency standards / - / - / T11.3
 Photon Research Products
 Telex/Aemco, a div. of Telex, Inc. Tempo Instrument Inc.
 Trepac Corp. of America -- see C32
 G. C. Wilson & Co., 1035 26th St., Huntington, W. Va. 25703 / timing controls / DESCR: electronic timing controls and time delay relays, both solid state and cold cathode units. Available plug in or in housing / USE: controlling time intervals / \$12 to \$60 / T11.3
 Wright Engineering Co., Inc.

T12. TRANSFORMERS

ADC Products, Inc., 6325 Cambridge St., Minneapolis, Minn. 55426 / transformers / DESCR: power transformers / USE: power supplies / - / T12
 Aladdin Electronics, 703 Murfreesboro Rd., Nashville, Tenn. 37210 / transformers and pulse transformers / DESCR: transforms or other magnetic core components utilizing any form of core materials, configurations and windings / USE: step-up or step-down in coupling applications or in blocking oscillator applications / \$1.50 to \$3.50 / T12
 AMP Inc., Eisenhower Blvd., Harrisburg, Pa. / pulse transformers / DESCR: high voltage, hermetically sealed, canned, toroidal / USE: in computers for amplification of a square wave / - / T12
 Atlas Engineering Co. Inc., 10 Cheney St., Dorchester, Mass. / transformers / DESCR: all types designed and manufactured to customer specifications / USE: as a component part of equipment / \$1 to \$1200 / T12
 Ballastran Corp. -- see C26
 Bourns, Inc., Trimpot Div.
 Cycle Transformer Corp., 356 Glenwood Ave., East Orange, N.J. / transformers / DESCR: magnetic Voltab regulators (AC or DC) customized to fit the equipment requirements / USE: for computer power supplies / approx. \$15 to \$1000 / T12
 DECCO, Inc., 2025 Farrington, Dallas, Tex. / transformers / DESCR: manufacturers of miniature transformers such as "Buds" and "Mites" designed for plug-in construction / USE: pulse transformation / \$4 to \$10 / T12
 Electronic Transformer Corp., 29 Park Place, Passaic, N.J. 07056 / transformers / DESCR: custom built to MIL T27 or commercial applications. Audio, power, magnetic amplifiers, reactors, toroids, resonant filters / USE: in electronic instruments / - / T12
 General Instrument of Canada Ltd.
 Hammond Manufacturing Co., Ltd., Edinburg Rd. & Steepvale Ave., Guelph, Ontario, Canada / transformers / DESCR: custom electronic transformers in prototype or production quantities / USE: power supply of control circuitry / - / T12
 Inductor Engineering, Inc., 117 Schley Ave., Lewes, Delaware 19958 / transformers / DESCR: toroid, filters / USE: electronic components / \$5 to \$100 / T12
 International Electronic Research Corp. -- see G1
 JB Electronic Transformers Inc., 2310 W. Armitage Ave., Chicago 47, Ill. / transformers / DESCR: transformers, design, prototypes, production, airborne or ground support types. Weight and size reduction prototype service, also specialize in precision ratio types. Commercial or military / - / T12
 Librascope Group, General Precision, Inc.

Mace Corp., 900 N.E. 13th St., Ft. Lauderdale, Fla. / transformers / DESC: custom high reliability, audio and power all types meet MIL-T-27B specifications, encapsulated or metal cased / USE: any transformer requirement / \$1.66 to \$266 / T12

Microtran Co., Inc.
Polyphase Instrument Co.
Raytheon Co., Microwave and Power Tube Div.

Suprex Electronics Corp.
The Superior Electric Co., 383 Middle St., Bristol, Conn. 06012 / POWER-STAT[®] Variable Transformers / DESC: deliver continuously adjustable voltage from a-c power lines; ratings from 132 VA to 374 KVA. Manually operated, motor-drive and metered knob types available / USE: to control voltage / \$8.50 to \$8750 / T12
Transformer Design Inc. of Milwaukee, 7377 North 76th St., Milwaukee, Wis. 53223 / environmental testing / DESC: environmental laboratory qualified to conduct MIL-T-27B tests by Defense Electronics Supply Center / USE: to qualify transformers and allied products to MIL-T-27 / \$100 to \$5000 / T12

Transformer Design Inc. of Milwaukee, *a / transformers, reactors, saturable reactors, filters, power supplies, etc. / DESC: design, development and production; modern manufacturing facilities; close supervision; manufacturing philosophy geared to high quality; high reliability / USE: in aerial guidance systems, ground support equipment / \$5 to \$600 / T12
Triad Distributor Div., Litton Industries, 305 N. Briant St., Huntington, Ind. / transformers and inductors / DESC: transformers - constant voltage isolation and rectifier powers, low voltage powers, DC to DC transistor powers, pulse (blocking oscillator types). Sub-miniature toroidal inductors / - / T12
United Transformer Corp., 150 Varick St., New York, N.Y. 10013 / transformers / DESC: hermetically sealed military and industrial types available both from stock or custom-built to specifications / USE: component in electronic circuit / depending on design / T12

T13. TRANSFORMERS, PULSE

Aladdin Electronics -- see T12
AMP Inc. -- see T12
The Artronic Instrument Co., 11232 Triangle Lane, Silver Spring, Md. 20902 / pulse transformers / DESC: miniature epoxy encapsulated units for printed circuit mounting; precision-wound coils for uniform pulse response / USE: to change impedance levels, pulse amplitude, and pulse polarity / \$6 to \$30 / T13
Atlas Engineering Co. Inc. -- see T12
Ballastran Corp. -- see C26
DECCO, Inc. -- see T12
El-Rad Manufacturing Co., 4300 California Ave., Chicago 18, Ill. / pulse transformers / DESC: small wire-in and printed card insertion types, for coupling, shaping and driving applications / - / \$1 to \$25 / T13
Hammond Manufacturing Co., Ltd.
JB Electronic Transformers Inc. -- see T12
Librascope Group, General Precision, Inc.
Mace Corp., 900 N.E. 13th St., Ft. Lauderdale, Fla. / pulse transformers / DESC: encapsulated or metal cased meets MIL-T-21038B and NCP 203-3 specifications. Pulse width available from one microsecond / USE: telemetry and computers / \$1.50 to \$65 / T13
PCA Electronics, Inc., 16799 Schoenborn St., Sepulveda, Calif. / manufacture of electronic components / DESC: miniature pulse transformers, delay lines, toroids, filters, etc. / USE: radars, computers, etc. / - / T13
Pearson Electronics, Inc., 4007 Transport St., Palo Alto, Calif. / instrument / DESC: precision pulse and wide-band current monitoring instrument transformers / - / \$190 to \$875 / T13
Pearson Electronics, Inc. *a / pulse transformers / DESC: high voltage pulse transformers; high performance pulse transformers / - / \$50 each to \$25,000 each / T13
Raytheon Co., Microwave and Power Tube Div.
Sprague Electric Co.
Technitrol, Inc.
Torotel, Inc.
Triad Distributor Div., Litton Industries

tries Inc., -- see T12
United Transformer Corp., 150 Varick St., New York, N.Y. 10013 / pulse transformers / DESC: hermetically sealed and industrial electronic components available from stock or custom-built to customer's specifications / USE: in electronic pulse circuitry / depending on design / T13

T17. TRANSLATING EQUIPMENT

Electronic Engineering Co. of Calif.
IBM, Federal Systems Div.
Itek Corporation
The Superior Electric Co. -- see C44
Trak Electronics Co., Inc.

T18. TYPEWRITERS, ELECTRIC, CONTROLLED

Benson-Lehner Corp.
Connecticut Technical Corp.
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / BCP Computer / DESC: prepares documents that require writing and computing, with tab card output. All data (numeric and alphabetic) entered from standard electric typewriter keyboard. Automatic computing / USE: billing and other data processing / - / T18
Friden, Inc., *a / CTB Computer / DESC: prepares documents that require writing and computing. All data (numeric and alphabetic) entered from standard electric typewriter keyboard. Automatic computing / USE: billing and other writing-computing applications / - / T18
Friden, Inc., *a / Flexwriter automatic writing machine / DESC: operates under control of punched tape, edge-punched cards or tab cards; produces documents; punches new tape or cards for further processing / USE: general data processing, computer input/output, numerical control, etc. / - / T18
Friden, Inc., *a / Flexwriter SR Series / DESC: remotely-controlled machines which prepare related documents (e.g., check registers) simultaneously with preparation of original document (e.g., vouchers) on the master Flexwriter. Several models available / USE: document preparation / - / T18
Friden, Inc., *a / Numerical Control Flexwriter / DESC: produces and verifies punched paper tape for numerical control of machine tools / USE: numerical control tape preparation / - / T18

V1. VISUAL OUTPUT DEVICES

Applied Control Corp. -- see C25
Avtron Manufacturing, Inc.
Belock Instrument Corp., 112-03 14th Ave., College Point, L.I., N.Y. 11356 / large screen data display systems / DESC: computer-controlled systems for large screen displays featuring multiple projectors, high velocity scribing, constant rapid updating and large memory storage / USE: military tactical displays, command rooms, war rooms / \$50,000 to \$750,000 / V1
Benson-Lehner Corp.
Bowmar Instrument Corp., 8000 Bluffton Rd., Ft. Wayne, Ind. / solid state optocoupler readouts / DESC: miniature, self-illuminated computer readout; bright (200 ft. lamberts); converters to transform binary code to digital (or symbol) display; integral decimal points; integral memory and address recognition / USE: on time-sharing basis / \$40 (without memory) to \$140 (with memory) / V1
Burroughs Corp., Ann Arbor Lab., 7300 Huron River Dr., Dexter, Mich. / command and control display / DESC: direct view display of digital data by alphanumeric and graphics on CRTs up to a 200 KC data rate. Expansion, control switches, light pens available / USE: command and control -- tactical, military; display and human factor simulations / \$40,000 to \$100,000 / V1
Burroughs Corp., Ann Arbor Lab., *a / DIGIPRINT / DESC: microfilm recording of digital data converted to special symbols, alphanumerics, and graphics as displayed on a high resolution cathode ray tube / USE: display and recording of computer-generated data / - / V1
Burroughs Corp., Electronic Components Div., P.O. Box 1226, Plainfield, N.J. / NIXIE[®] Indicator Tubes / DESC: visual alpha-numeric readout devices, also available as pure numeric readout tube / USE: for

visual displays / \$5 to \$45 / V1
Burroughs Corp., Electronic Components Div., *a / spherulic optic displays / DESC: displays letters, numbers, words or messages / USE: for visual displays / \$10 to \$18 / V1
California Instruments Corp., 3511 Midway Dr., San Diego, Calif. 92110 / model 5000 automatic oscilloscope / DESC: DC to 10 megacycle vertical bandwidth; .5 microsec/inch to 50 milliseconds/inch sweep speeds. Vertical ranging, sweep speeds, trigger and DC offset centering automatic. Manual override provided / USE: rapid checkout of computer circuits; eliminates need of continuous knob twisting to find the trace / \$2475 / V1
CBS Laboratories, a Div. of Columbia Broadcasting Systems, Inc.
CG Electronics Div., Gulton Industries, Inc.

Chadwick-Helmuth Co., 111 E. Railroad Ave., Monrovia, Calif. 91016 / Sweep SYNC / DESC: tracking sweep control for any oscilloscope -- holds exactly one cycle for full width display while frequency sweeps from 5-20,000 cps / USE: "quick look" distortion analyzer with single beam CRO, "quick look" transfer function analyzer with dual beam CRO / \$385 / V1
Cohu Electronics, Inc., Kin Tel Div., P.O. Box 623, San Diego, Calif. 92112 / BCD readout / DESC: enables direct readout of BCD outputs from digital voltmeters, programmers, comparators, translators, and other BCD control devices. Solid-state circuitry / USE: with BCD control devices / \$495 / V1
Computer Products, Inc.
Control Data Corp.
Contronics, Inc. -- see C24A
Data Display, Inc., 1820 Como Ave., St. Paul, Minn. / dd 40 Modular Cathode Ray Tube Display System / DESC: basic system capable of displaying 3000 characters on a 19 inch CRT. Optional input devices, memory, vector generator, recording module, etc. may be added / USE: on line debugging, display of computer processes and memory contents / - / V1
Dialight Corp. -- see L1
Dialtron Corporation, 203 Harrison Pl., Brooklyn 37, N.Y. / thermal time delay relays / DESC: hermetically sealed in metal cover / USE: in computers, data processing, and automation equipment / - / V1
Digital Equipment Corp., 146 Main St., Maynard, Mass. / Cathode Ray Tube Display Type 31 / DESC: plots data point by point on 5-inch cathode ray tube. Suitable for precision photographic recording of display data or scanning of photographic negatives / USE: converts digital computer data into graphic or tabular form / \$41,200 / V1
Digital Equipment Corp., *a / Oscilloscope Display Type 34 / DESC: plots data point by point on an X-Y plotting scope such as the Textronix Model RM503. Ten bits per axis / USE: enables a conventional oscilloscope to display digital computer data / \$3060 to \$3900 / V1
Digital Equipment Corp., *a / Precision Cathode Ray Tube Display Type 30 / DESC: plots data point by point at a 50 microsecond rate on a 16-inch cathode ray tube. Separately variable 10-bit X and Y coordinates / USE: permits rapid conversion of digital computer data into graphic and tabular form / \$14,300 / V1
Digital Equipment Corp., *a / Precision Incremental Cathode Ray Tube Display Type 340 / DESC: plots points, lines, vectors, and characters on 9-3/8 inch square raster of 1024 points along each axis. Random point plotting rate - 35 microseconds; vector, increment and character modes - 1-1/2 microseconds per point / USE: converts digital computer data into graphic and tabular form / \$28,600 / V1
Dimensions, Inc., 95 Madison Ave., Hempstead, L.I., N.Y. 11550 / DIMEN-PLOT X, Y, Z plotter / DESC: manual method of plotting information in X, Y, Z. Gives a true, accurate, 3-D representation. Computer-operated automatic and dynamic 3-D displays also available / USE: as an X, Y, Z display / \$59.50 to \$99.50 per kit / V1
General Dynamics/Electronics, 3302 Pacific Highway, P.O. Box 127, San Diego 12, Calif. / S-C 1090 Direct View Display / DESC: high speed visual display for real-time computer monitoring, program debugging, command and control, surveillance and monitoring systems for defense, air traffic

control, etc. / USE: on-line or off-line with digital computer / - / V1
Hagan Controls Corp. -- see A4, C32, D1, S1
Hewlett-Packard Co.

Hughes Aircraft Co., Vacuum Tube Products Div., 2020 Oceanside Blvd., Oceanside, Calif. / direct view storage tubes / DESC: ranging in size from 3 to 21 inches / USE: variety of applications including computer readout, ground and airborne radar, etc. / - / V1
Image Instruments, Inc. -- see I2
IBM, Federal Systems Div.
International Telephone & Telegraph Corp. (ITT Industrial Lab. Div.), 3700 E. Pontiac St., Fort Wayne, Ind. / Videx / DESC: only television system using transmission over regular telephone lines and producing both a stored visual display and the capability for hard copy / - / \$7500 to \$18,000 / V1
International Telephone & Telegraph Corp. -- see C44A
Itek Corporation
Neff Instrument Corp., 1088 E. Hamilton Rd., Duarte, Calif. / Type 401 / DESC: single channel, potentiometric type strip chart recorder to give permanent visual record of slowly varying signals / USE: visual readout device / \$1400 to \$1600 / V1
Raytheon Co., Industrial Components Div.
Recognition Equipment Inc., 4703 Ross Ave., Dallas 4, Tex. / alphanumeric character displays / DESC: electro-mechanical display system for applications requiring large quantities of alphanumeric data; i.e., computer output, status boards. Readability enhanced by ambient light. Electronic buffering eliminated / - / approximately 50% of cost of electronically driven displays when utilized with sufficient mass of information / V1
RMS Associates, Div. of Information Displays, Inc. -- see G2, I2
The Teleregister Corp., 445 Fairfield Ave., Stamford, Conn. / Cathode Ray Tube Display Device CRT / DESC: two-gun cathode-ray tube within compact housing operating in conjunction with separate character-generating and communications equipment / USE: as visual display device with data-processing systems / upon request / V1
The Teleregister Corp., *a / digital read-out indicators / DESC: family of electromechanical indicators displaying digits 0 through 9 and "blank" upon command. Designed for quantity usage, high-duty cycle, long life / - / \$6 to \$35 / V1
The Teleregister Corp., *a / electric stock quotation boards / DESC: display boards with numeric indicators displaying close, open, high, low and last prices of selected stocks, or other items depending upon applications / USE: stock quotation system and other data-dissemination systems / upon request / V1
The Teleregister Corp., *a / message composer with visual display / DESC: combination cathode-ray tube display and alphanumeric keyboard printer complete with magnetic drum, solid-state logic and power supplies / USE: as input/output device or subsystem for data-processing systems / upon request / V1
Theta Instrument Corp., Saddle Brook, N.J. 07663 / shaft encoders / DESC: parallel, absolute, decimal-coded output. High power can drive printers and display devices directly. Neither code-conversion nor power application required / USE: shaft position display / \$400 to \$1400 / V1
Transistor Electronics Corp., Box 6191, Minneapolis 24, Minn. / Tec-Lite Digital Readouts / DESC: digital display devices with internal lamp control circuitry designed to operate from low level signals. Decoder functions available / USE: information display / \$35 to \$75 / V1
Transistor Electronics Corp. -- see L1

- 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? _____

Filed 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:

- Ss - Small size, up to 50 employees;
- Ms - Medium size, 50 to 500 employees;
- Ls - Large size, over 500 employees;
- Se - established a short time ago, 1951 or later;
- Me - established a "medium" time ago, 1931 to 1950;
- Le - long established organization, 1930 or earlier;
- *C - "Checked" by the organization; "64" means "in 1964", 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 / Ss? Se(1962) / *C 64
Actuarial Computing Service Inc., 1389 Peachtree St., Atlanta 9, Ga. / EQPM: - / PROB: actuarial of any type; specializing in insurance applications / Ss(6) Se(1956) / *C 64

Aeronautic 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 / Ms(165, mathematical services personnel) Se(1956) / *C 64

The American University Center for Technology and Administrative, 1901 F St., N.W., Washington 6, D.C. / EQPM: 2 LGP-30's, 2 Flexwriters off line. Photo-electric paper tape read and punch / PROB: class room work, information storage and retrieval / Ss(11) Se(1958) / *C 64

Association of Data Processing Service Organizations, Inc., 947 Old York Road, Abington, Pa. 19001 / EQPM: - / PROB: service center management / Ss(2) Se(1960) / *C 64

Association of Management Consultants, Inc., 947 Old York Road, Abington, Pa. 19001 / EQPM: - / PROB: data processing systems / Ss(2) Se(1960) / *C 64
Automated Accounting Center of Conn., 7 Field St., Waterbury 20, Conn. / EQPM: Bendix G-15D general

purpose computer, 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 Flexwriters, 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 / Ss(7) Se(1959) / *C 64

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 / Ss(3) Se(1955) / *C 64

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. / Ms(55 computer related employees of 1200.Bendix Systems Div. personnel) Se(1956) / *C 64

Ernest E. Blanche & Associates, Inc., 10335 Kensington Pkwy., Kensington, Md. / EQPM: IBM 1401 System with magnetic tape and punch card input and output (4 tape drives), high speed printer; 54 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 / Ms(123) Se(1955) / *C 64

Booz-Allen Applied Research, Inc., 4241 Fulton Pkwy., Cleveland 9, Ohio / EQPM: access to general purpose digital and analog computers; communication computers; data acquisition, analysis and presentation equipment; control and processing equipment and specialized instrumentation. Services in all technical areas and all phases of scientific consulting from basic research through prototype design, development, and test / PROB: system analyzing, equipment selection, system management, development of detailed software, special purpose circuit design, special purpose equipment design, prototype development and other technical studies / Ls(8000) Le(1914) / *C 63

The Bunker-Ramo Corp., 8433 Fallbrook Ave., Canoga Park, Calif. / EQPM: The Bunker-Ramo TRW 330 digital control computer; drum working memory, medium speed, powerful interrupt and input scanning capabilities. The Bunker-Ramo 340 digital control computer; core working memory, drum bulk storage, highly efficient intermemory transfer, completely buffered input-output systems. The Bunker-Ramo TRW-130 (AN/UXX-1) data processing system; medium-scale, core memory, "stored logic" militarized computer. The Bunker-Ramo TRW-400 "Polymorphic" data processing system. The Bunker-Ramo TRW-530 information processor. Computer communication console; display analysis console; The Bunker-Ramo TRW-05 graphic control/display console; automatic full color group display system; automatic map compilation system / PROB: All problems susceptible of solution by applying electronic control system techniques - industrial process control, television switching control, traffic control, inventory control, machine tool numerical controls; military systems for Command-and-Control, ASW/oceanography, communications and intelligence; and problems requiring computers and display devices interacting with

human monitors to form integrated man-machine systems / Ls(29,000) / *C 64

Carde, P.O. Box 1427, Quebec, P.Q. Canada / EQPM: IBM 1620; ALWAC III-E; EAI Dataplotter / PROB: scientific and engineering / Ss(21) Se(1951) / *C 64

C-E-I-R, Inc., One Farragut Square S., Washington 6, D.C.; centers in Washington, New York, Boston, San Francisco, Los Angeles, Jacksonville, St. Louis, Mexico City, London, Paris / EQPM: Washington: 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. / Ms(300) Se(1954) / *C 64

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 / Ls(675) Me(1933) / *C 64

Computech, Inc., 575 Lexington Ave., New York 22, N.Y. / EQPM: One 1460 16k tape system, one 1401 16k tape system, one 1401 8k tape system 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 / Ms(110) Se(1957) / *C 64

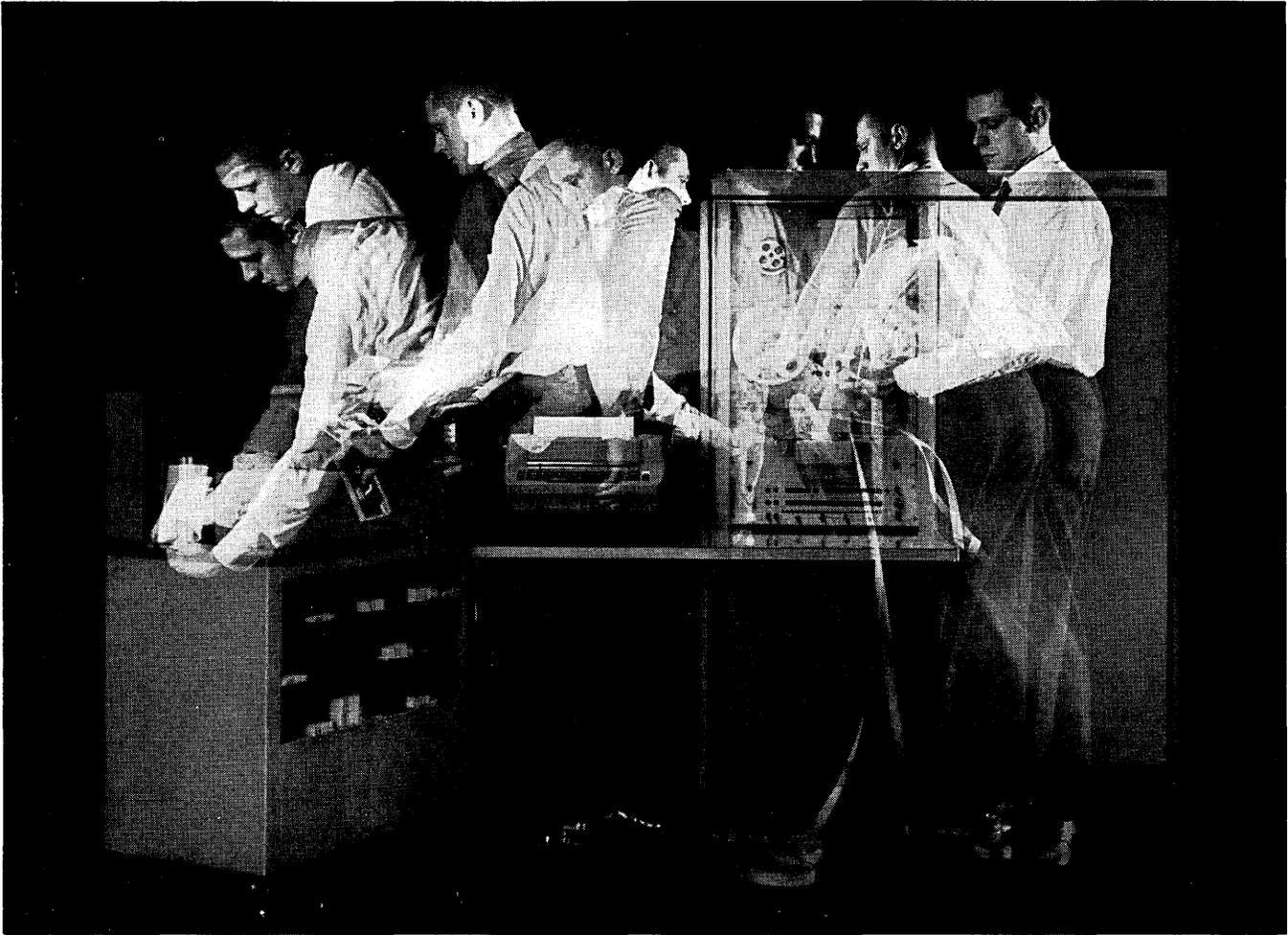
Computer Advisors to Management (CAM), Division of Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / EQPM: 14 data processing and computer centers, nationwide, containing IBM 1400-series card tape systems plus peripheral equipment and conventional punch card tabulating data processing machines / PROB: professional consulting for business, science, and government in the economic evaluation and application of computer systems for management information and control / Ls(5000) Me(1933) / *C 64

Computer Engineering Associates, 350 N. Halstead, Pasadena, Calif. / EQPM: Direct Analog Computer, built by Computer Engineering Associates, an affiliate of Susquehanna Sciences, Inc., using electronic amplifiers and passive elements (resistors, capacitors, inductors, and transformers) / PROB: dynamic mechanical and aerodynamic vibration problems; static stress analysis; heat transfer and heat flow problems / Ms(50) Se(1952) / *C 63

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 application / Ss(7) Se(1960) / *C 63

Computer Sciences Corp., 650 N. Sepulveda, El Segundo, Calif. (General Offices); 660 Madison Ave., New York 21, N.Y. (New York Div.); 3773 Richmond Ave., Houston 27, Tex. (Houston Div.); 18 Maddox St., London W.1. England (London Office) / EQPM: small to large scale computers available; 1107 computer and associated equipment in Los Angeles / PROB: computing, consulting, analysis, and programming, and machine computation services; provides contracted analysis,

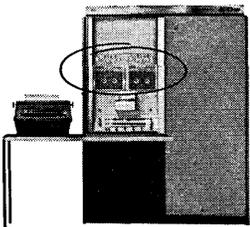
SDS MAGPAK TAKES THE GRIEF OUT



BEFORE MAGPAK

To assemble a program

1. Mount paper tape and load assembler.
2. Run source program cards.
3. Rerun cards with source program.
4. Punch out object code.
5. Rewind paper tape.
6. Load object program.
7. Load tape subroutines.
8. Load data.
9. Execute the program.



Magpak is a magnetic tape system developed by Scientific Data Systems specifically to fit SDS 900 Series software. It takes seven inconvenient, time consuming, error-causing steps out of small computer operation. With Magpak, budget-limited computer users can have large computer convenience and efficiency at half the cost.

independently controlled magnetic tape drives mounted on a 10½" by 19" panel that fits any standard SDS 900 Series Computer rack. Each tape drive holds a self-contained, dual track, magnetic tape cartridge with a total capacity of more than 4 million characters. All Magpak controls and programming functions are identical to the controls and functions of standard SDS high-speed IBM-compatible tape units. Any program written for these standard units can be run on Magpak.

Magpak system costs

A typical SDS Magpak system, including an SDS 910 computer with a 4,096-word memory, card reader, typewriter and a comprehensive software package (FORTRAN II, SYMBOL Assembly System, META-SYMBOL and MONARCH Monitor Routine plus a complete library of subroutines and utility programs) costs only \$81,000 (\$2,350 per month on lease). A competitive system with comparable convenience and

SDS Magpak, a compact, low cost, automatic programming oriented magnetic tape system, is available with all SDS 900 Series Computers. It has the functional capability of four SDS standard IBM-compatible magnetic tape units at a fraction of the cost. Magpak consists of two

OF SMALL COMPUTER OPERATION



WITH MAGPAK

To assemble a program

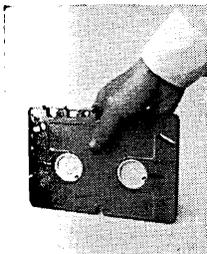
1. Load single card deck containing source program and data.

2. Execute the program.

performance costs twice as much, yet operates up to ten times slower.

Magpak convenience saves money

In addition to its low original cost, Magpak greatly reduces operating costs. Most small, scientific/engineering computers are used on an open shop basis. They are generally operated by high salaried technical personnel with only moderate computer usage skills. This results in lost time and operating errors. With Magpak, both the time required to operate the computer and the opportunities for human error are greatly reduced. And the easy to carry, easy to store, easy to mount Magpak tape cartridges eliminate the wear, tear and sequencing problems



inherent to paper tapes and cards. With Magpak, you simply load a punched card source program and execute your problem in a manner identical to operating a large, expensive computer system.

For more information

If you would like additional information about SDS 900 Series Magpak systems, contact your nearest SDS sales and service office, or write on your letterhead for our Magpak Data Bulletin.

SDS 900 SERIES/MAGPAK
SCIENTIFIC DATA SYSTEMS 1649 Seventeenth Street, Santa Monica, Calif.
Sales offices in New York, Boston, Washington, Philadelphia, Huntsville, Orlando, Chicago, Houston, San Francisco. Foreign representatives: Instronics, Ltd., Stittsville, Ontario; CECIS, Paris; F. Kanematsu, Tokyo; RACAL, Sydney.

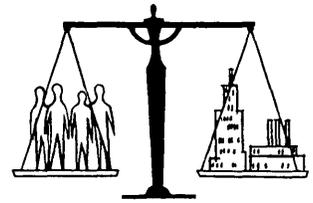
- programming and/or machine computation of engineering, scientific and business data processing problems; also feasibility studies for computer choice, staffing and other installation problems / Ms(135) Se(1959) / *C 63
- Computing Services Company, a Div. of KCS Ltd., 20 Spadina Rd., Toronto 4, Canada / EQPM: Burroughs B 280 and B 5000 / PROB: all types of computing services provided / Ms(130) Se(1954) / *C 64
- Computing Services Division, Elliott Bros., (London) Ltd., Elstree Way, Borehamwood, Herts, England / EQPM: two National-Elliott 803's, one Elliott 503 / PROB: scientific, mathematical, statistical and engineering problems; market survey analysis; project planning; quantity surveying; structural analysis and design; traffic survey analysis / Ms(65) Se(1954) / *C 64
- Control Data Corp., 8100 34th Ave., S., Minneapolis 20, Minn. / EQPM: Control Data 1604-A digital computer, advanced, large scale, solid state; Control Data 924-A digital computer, medium scale, solid state; Control Data 3600 advanced large scale digital computer, solid state; Model 180 Data Collector, Model 606 Magnetic Tape Units, Model 166 Line Printer, Model 1612 Line Printer, Model 167 Card Reader / PROB: business, industrial, accounting, engineering, scientific, data processing / Ls(2700) Se(1957) / *C 63
- 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 / Ss(15) Se(1960) / *C 64
- 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 / Ms(80) Se(1954) / *C 64
- Data Processing, Incorporated, 1334 Main St., Waltham 54, Mass. / EQPM: regular access to a variety of computers, up to IBM 7094 / PROB: analytical, programming and general consulting services for scientific and advanced business applications. Wide range of problem-solving services, including problem statement, programming, computation, and result evaluation, will assume responsibility for all phases. Emphasis on matching programming and computing techniques to human requirements / Ss(12) Se(1957) / *C 63
- 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 / Ss(12) Se(1955) / *C 64
- Douglas Computing Service, Dept. G-34, Douglas Aircraft Co., Inc., 3000 Ocean Park Blvd., Santa Monica, Calif. / EQPM: IBM 1401-1410 and 7090/94 Computer Systems and peripheral equipment. Remington Rand Univac Solid State Computers and Univac Electronic Tabulators / PROB: all scientific, engineering, manufacturing, and business problems, handled by rental of machine time / Ls(1000) Se(1959) / *C 63
- EAI Computer Center at Los Angeles, Inc., 1500 E. Imperial Highway, El Segundo, Calif. / EQPM: one EAI Hydac 2400 hybrid digital analog, including 231R-Y (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 / Ss(19) Se(1956) / *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 / Ss(45) Se(1954) / *C 64
- 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 / Ss(20) Se(1963) / *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 / Ms(400) Le(1913) / *C 64
- Dr. Ivan Flores, Consultant, So. Huckleberry Dr., Norwalk, Conn. / EQPM: - / PROB: logic design of general purpose computers; special purpose computer design feasibility and proposal; man-machine interface; math. models; character recognition; educational seminars / Ss(3) Se(1960) / *C 64
- Franklin Institute, 20th and Parkway, Philadelphia, Pa. / EQPM: Honeywell 1400, 6 tapes, CRCP, 900 line/min. HSP on line / PROB: business data processing, scientific and engineering computations / Ss(30) Se(1957) / *C 64
- General Electric Co., Electric Utility Engineering Operation, 1 River Rd., Schenectady 5, N.Y. / EQPM: IBM 7090, IBM 704, GE 225, analog network analyzers and differential analyzers / PROB: analysis and solution of systems problems such as systems studies for electric utilities, special studies involving mechanical and control systems / Ms(70) Me(1949) / *C 63
- GPS Instrument Co., Inc., 180 Needham St., Newton, Mass. / EQPM: compressed timescale analog computer, including statistical and iterative analyzers and programmers. Equipment available includes both non-linearity simulators such as multipliers, function generators, lag units, etc. Available equipment will handle all conventional applications / 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 / Ss(40) Se(1955) / *C 62
- Halbrecht Associates, Inc., 332 S. Michigan Ave., Chicago 4, Ill; 11691 National Blvd., Los Angeles 63, Calif. / EQPM: - / PROB: recruitment and placement, nationally, at all levels, of persons engaged in electronic data processing, operations research, mathematics, management sciences, and upper levels of management of scientific activities; also personnel research and consulting with reference to organization of data processing and operations research departments / Ss(9) Se(1957) / *C 63
- Honeywell, Inc., Queen & Bailey Sts., Pottstown, Pa. / EQPM: analog recording, analog and digital data acquisition, analog-to-digital conversion, wired program data loggers, stored program industrial computers / PROB: instrumentation measurement and control of industrial processes / Ms(350) Se(1958) / *C 64
- Institute of Scientific Information, 325 Chestnut St., Philadelphia, Pa. 19106 / EQPM: ten IBM 026 K. P., eight IBM 956 Ver., one IBM 083 Sort, one IBM 557 / PROB: scientific information, processing scientific journals, abstracting chemical literature, indexing scientific literature / Ms(75) Se(1958) / *C 64
- I/S Datacenter af 1959, Ved Stadsgraven 15, Copenhagen 5, 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 / Ms(150) Se(1959) / *C 64
- 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 (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 / Ms(270) Me(1949) / *C 64
- Edwin A. Lipps Engineering, 1511 Colorado Ave., 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 / Ms(50) Me(1947) / *C 64
- 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 / Ss(40) Se(1957) / *C 64
- Multonah Data Processing Center, 430 N.W. 10th Ave., Portland, Ore. / EQPM: IBM 1401 4K card system; IBM 1410 40K, five tapes with on-line reader and printer. Data processing equipment includes: 1 IBM 407, three sorters, two collators, two tape-to-card, etc. / PROB: standard commercial data processing services, with branch offices in Seattle and Boise / Ms(55) Se(1958) / *C 63
- National Bureau of Standards, Computation Laboratory, 236 Bldg. 10, Washington, D. C. 20234, successor to the Mathematical Tables Project, New York, 1938, which pioneered in using punched-card equipment for solving scientific problems and preparing mathematical tables / EQPM: IBM 7094-I with 32,000 word core, 10 tapes (729IV); IBM 1410 with 40,000 character memory, floating-point feature, 5 tapes (729IV); punched-card peripheral equipment / PROB: problems arising in the physical sciences, engineering, operations research and data processing; numerical experimentation; statistical analysis; preparation of mathematical tables; etc. / Ms(?) Me(1947) / *C 64
- The National Cash Register Co., Dayton 9, Ohio / EQPM: chain of NCR Data Processing Centers at Jamaica, L.I., N.Y.; Toronto, Ontario, Canada; Chicago, Ill.; Los Angeles and San Francisco, Calif.; St. Louis, Mo.; and Houston, Texas. New York: 304 system with 4k memory, offline input card and tape, 8 magnetic tapes, two offline high speed alpha line printers; 315 system with 20k memory, magnetic tapes, CRAMS, paper tape, card, magnetic character sorter in, paper tape, card, line printers out. Dayton, Ohio: 304 (same as N.Y.) and two 315's. Hawthorne, Calif.: 304, 315 (same as N.Y.). Denver, Colo. and Richmond, Va.: one 315 each / PROB: wide range of data processing applications including accounts receivable, sales analysis, expense distribution, job cost records, inventory accounting, merchandise control, deposit accounting for savings banks and savings and loan associations, patient accounting for medical and dental professions. Input for these applications is created on customers' premises by wide line of NCR machines coupled to tape recorders, card punches, etc. Have begun to service NCR sales registers and adding machines equipped with NCR optical type font. NCR data processing centers employ program generators which, if applicable to the customer's problem, substantially reduce programming charges and getting-started costs, and also enable customers to choose a convenient starting date for processing / Ms(150 in computing services) Se(1960, DP Centers) / *C 63
- National Physical Laboratory, Mathematics Div., Teddington, Middlesex, England / EQPM: DEUCE and ACE and KDF 9 / PROB: numerical analysis, applied mathematics, theoretical physics, data processing / Ms(60) Me(1945) / *C 64
- Naval Research Establishment, Grove St., Dartmouth, Nova Scotia, Canada / EQPM: ALMAC III/E, FP-6000 / PROB: general scientific problems / ?s Se(1962) / *C 63
- Northrop Corp., Nortronics Div., Research Park, Palos Verdes Estates, Calif. / EQPM: Digital: IBM 7090 (second IBM 7090 by November, 1962); 3 IBM 1401's (two to have double printers); 3 IBM 7044's on order for mid 1963; 2 IBM 1301's on order for early 1963; 1 IBM 607 with 407 and high-speed plotter; miscellaneous punch card equipment. Analog: (as calculators) 416 d-c operational amplifiers; 20 servo multipliers; 30 channels of electronic multiplication; 4 resolvers; 37 function generators; 8 recorders; 4 special coefficient racks. Analog: (as simulators and model testers) 142 d-c operational amplifiers, 5 recorders. Data Reduction: (for reducing test data) 1 Teleread miscellaneous other equipment / PROB: all types of digital and analog engineering calculations; simulation and model testing; Manufacturing Control; numerically controlled manufacturing tool tapes and 6 pre-processors; war gaming; operations research; reconnaissance data handling; engineering and scientific research and development; all business data processing including financial, manufacturing, material, etc.; integrated management systems supported by integrated data processing / Ms(200) Me(1949) / *C 63
- Philco Corp., a subsidiary of Ford Motor Co., Computer Div., Service Bureau, 3900 Welsh Rd., Willow Grove, Pa.; also Western Computing Center, 3375 Fabian Way, Palo Alto, Calif. / EQPM: Philco 2000, 1000, 4000 series all-transistor data processing systems; Basicpac FIELDATA computers / PROB: digital computing, engineering and development digital computers; research in computers / Ss(48) Se(1958) / *C 63
- Production Systems, Inc., 144 Moody St., Waltham 54, Mass. / EQPM: G.E. 225 computer / PROB: business data processing, inventory, sales, selling, A/R, A/P, payroll, statistical data, etc. / Ss(9) Se(1952) / *C 64
- 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 / Ss(15) Se(1962) / *C 64
- Rand Corporation, Santa Monica, Calif. / EQPM: Johniac, IBM 7090 / PROB: linear programming, modelling, scientific computing generally / Ls

(1100; 100 in Computer Sciences Dept.) Me(1947) / *C 64
 Recording & Statistical Co., 100 Sixth Ave., New York 13, N.Y. / EQPM: Burroughs 260 with peripheral equipment / PROB: fire and casualty insurance; commercial / Ms(105) Le(1911) / *C 64
 Reeves Instrument Co., Roosevelt Field, Garden City, N.Y. / - / - / Ls(1600) Me(1946) / *C 64
 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 counseling / 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 / Ls (5000) Me(1933) / *C 64
 Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / EQPM: 14 data processing and computer centers located in principal cities, coast to coast, containing complete complements of EAM equipment and 1401 card and/or tape computers / PROB: all phases of management control and reporting for industry, business, science and government. The oldest and largest independent data processing and computer service in America / Ls(5000) Me(1933) / *C 64
 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 / Ls(4000) Se(1957) / *C 64
 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 / Ms(110) Se(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 / Ls (5000) Me(1933) / *C 64
 Tata Institute of Fundamental Research, Colaba, Bombay 5, India / EQPM: TIFRAC: a digital computer, 2048 core memory (40 bits) teleprinter, C.R.O. as outputs, punched tape input and magnetic tape as auxiliary buffer memory / PROB: computation, data processing, numerical mathematics, programming languages, development of computers; programming courses on TIFRAC / Ss(35) Se(1955) / *C 63
 Technical Advisors, Inc., 104 W. Huron St., Ann Arbor, Mich. / EQPM: one RPC 4000 with multiple I/O devices / PROB: surveying and civil engineering computations / Ss(10) Se(1954) / *C 64
 Telecomputing Services, Inc., 9155 Van Nuys Blvd., Suite 250, Panorama City, Calif. 91402 / EQPM: three IBM 7094's, one B-5000, one IBM 7044, one IBM 704, four IBM 1401's, two IBM 1620's, one GE 225, two Honeywell 400's, two Honeywell 800's, two microwave high-speed data links, five Electronic Associates 231-R analog computers, two 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-sciences problems; and business data processing problems such as inventory control, payroll, labor distribution, production scheduling, etc. / Ms(420) Me(1947) / *C 64
 Tempus Operations Consultants, 1 Lyndeboro Pl., Boston 16, Mass. / - / PROB: computation services, programming, EDP and operations research in all fields, scientific, statistical and business; unusual problems / Ss(?) Se(1961) / *C 63
 Traffic Research Corporation, a Div. of KCS Ltd., 20 Spadina Road, Toronto 4, Ontario (also Montreal and New York) / EQPM: IBM 7070, 6 tapes and ancillary equipment / PROB: traffic research; data processing; scientific calculations, linear programming; simulation; etc., for business, industry, and government / Ms(90) Se(1954) / *C 63
 U. S. Air Force, Digital Computation Div., Directorate of Systems Dynamic Analysis, Wright-Patterson AFB, Ohio / EQPM: Datatron 204, IBM 7094, 2 - 1401's / PROB: solution of scientific and engineering problems and related data reduction for USAF research and development programs / Ms(70) Me(1950) / *C 63

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), and data reduction equipment / PROB: U.S. Army problems in ballistics, scientific computations / Ms(100) Me(1940) / *C 63
 U. S. Navy, Computation & Analysis Lab., 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 / Ms(350) Me(1946) / *C 64
 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 / Ms Se(1952) / *C 64
 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 / Ls Le / *C 64
 University of Manchester, Computing Machine Laboratory, Manchester, England / EQPM: Atlas large scale digital computing system plus ancillary equipment / PROB: mathematical and engineering; data processing problems; construction and scientific applications of computers; computing service and instruction in programming / Ss(30) Me(1947) / *C 63
 Westgate Laboratory, Inc., P.O. Box 63, Yellow Springs, Ohio / EQPM: Remington Rand Univac special purpose digital computer, Flexowriter, NCR 2300 bookkeeping machine, miscellaneous office calculating machines / PROB: cross-correlations; use of computer logic in circuit designs; research and development work in electronics, electro-mechanical and optical equipments / Ms(55) Se(1956) / *C 63
 Westinghouse Electric Corporation, 700 Braddock Ave., E. Pittsburgh, Pa. / EQPM: 7094 digital computer with peripheral 1401's; access to B-5000; Anacom (large passive element analog computer for extensive system transients); PACE (Electronics differential analyzer); DC network calculator; Prodac 580 control computer and systems laboratory / PROB: programming systems problems for electric utility and other industry, for system analysis, control, planning, and design / Ms(100) Me(1946) / *C 63
 White Sands Missile Range, Flight Simulation Laboratory, Electro-Mechanical Laboratories, White Sands Missile Range, N.M. / EQPM: digital: IBM 704 with 32,000 word core memory, IBM 1401, IBM 1620, and a magnetic tape digital plotter. Analog: 8 consoles with 800 amplifiers, 90 dual product electronic multipliers, 6 Euler angle transformation computers, 70 servo multipliers, 46 quarter square multipliers, 72 diode function generators, 13 Gaussian noise generators, one Addalink conversion system, and associated peripheral equipment / PROB: analog and digital simulation of rockets and guided missiles, real-time and hybrid simulation, data analysis, systems evaluation, and numerical analysis. Analysis and programming of scientific problems together with related computer services / Ms(100) Se(1955) / *C 63
 Wolf Research & Development Corp., Baker Ave., P.O. Box 36, W. Concord, Mass. / EQPM: Whirlwind I computer system, Bendix G-15D computer system, with two magnetic tape units, special curve tracing input device, card input-output equipment, off-line flexowriter and IBM 026 key punch unit / PROB: scientific, engineering, business, industrial, and military applications. Service routines. Data processing / Ms(200) Se(1954) / *C 64

- END -

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ROSTER OF CONSULTING SERVICES

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 "Roster 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:

- Ss - Small size - up to 50 employees;
- Ms - Medium size - 50 to 500 employees;
- Ls - Large size, over 500 employees (number in parentheses is number of employees);
- Se - established a short time ago, 1951 or later;
- Me - established a medium time ago, 1931 to 1950;
- Le - established for a long time, 1930 or earlier (number in parentheses is year of establishment);
- *C - "Checked" by the organization; "64" means "in 1964", etc.

All additions, corrections, and comments will be welcome.

- control, message switching applications, information retrieval and inventory management / Ss(38) Se(1962) / *C 64
- 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 systems, 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; R&D management; traffic and transportation control. Programmed teaching: evaluation and development of training programs, techniques, and hardware / Ms(93) Se(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 / Ss(3) Se(1955) / *C 63
- 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 / Ms(123) Se(1955) / *C 64
- 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 / Ss(17) Se(1956) / *C 63
- Booz, Allen Applied Research, Inc., 135 So. LaSalle St., Chicago, Ill. 60603 / Scientific and technical services. Computer and hardware systems design, installation management, computer feasibility, applications, systems analysis, software design, data processing, and scientific computation / - / *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 industry, commerce, government, and institutions; feasibility studies, systems design, equipment selection, implementation, systems conversion, EDP audit and review / Ms(400) Le(1914) / *C 64
- Brandon Applied Systems, Inc., 30 E. 42nd St., New York, N.Y. 10017 / Extensive experience in all areas of data processing management. Dick H. Brandon is author of "Management Standards for Data Processing" / Consulting services in data processing standards development, review, audit, and training. Also educational services and services to data processing users and manufacturers, including technical courses / Ss(9) Se(1964) / *C 64
- Chrono-Log Corp., 2503 West Chester Pike, Broomall, Pa. / Process control applications and systems; real-time computer control for both industrial and military applications; technical writing services; supply real-time programmable clock systems for digital computers / Ss(10) Se(1956) / *C 64
- Circuit Engineering, 100 Ellis Ct., Weston 93, Mass. / Complete electronic laboratory, prototype manufacturing facilities, extensive library, and professional engineer with experience in digital and analog computing circuits and information handling / Organization of new systems or applications / Ss(1) Se(1954) / *C 63
- 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 / Ms(200) Se(1961) / *C 64
- Computer Dynamics Corp., a subsidiary of The Tele-register Corp., 1104 Spring St., Silver Spring, Md. / Staff of professional programmer/analysts with broad range of specialties for EDP application analysis, equipment selection, systems design, programming, installation audit, education, control techniques including study, analysis, operations research, methods and procedures / Ms(50) Se(1961) / *C 64
- Computer Methods Corp., 107 Manaroneck Ave., White Plains, N.Y. / Specialists in command and control, real-time processing, communication and information systems, simulation techniques, and program and project management / Air traffic control, airline reservation systems, military data acquisition and display, and store and forward message switching / Ss(16) Se(1961) / *C 63
- Computer Sciences Corp., 650 N. Sepulveda Blvd., El Segundo, Calif. 90245 (General Offices); 3773 Richmond Ave., Houston 27, Tex. (Houston Div.); 1401 Wilson Blvd., Arlington, Va. (Washington, D.C. Office); 2500 El Camino Real, Suite 201, Palo Alto, Calif. (San Francisco Office); 18 Maddox St., London W.1. England (London Office) / 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 / Ms(250) Se(1959) / *C 64
- Control Data Corporation, Data Centers Div., 8100 34th Ave. S., Minneapolis 20, Minn. / 1604 and 160-A computation centers also in Palo Alto, Calif. and Washington, D.C. Thoroughly trained staff to assist in all phases of problem solving / Analysis, programming, feasibility and applications studies; business, scientific and engineering applications / Ms(150) Se(1962) / *C 63
- 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 / Ss(15) Se(1960) / *C 64
- Data Processing, Incorporated, 1334 Main St., Waltham 54, Mass. / Professional group supplying analytical, programming, and general advisory services for scientific and advanced business digital computer applications. Special emphasis on high standards of programming quality, and logical programming. Regular access to a number of computers, up to IBM 7094 / Experience includes varied scientific programming; special business programming such as operations research, Industrial Dynamics; logical programming in such areas as character recognition, artificial intelligence, and software systems including assembly
- 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 / Ss(2) Se(1962) / *C 64
- Actuarial Computing Service Inc., 1389 Peachtree, Atlanta 9, Ga. / Four employees with 25 years aggregate experience in insurance applications / Ss(6) Se(1956) / *C 64
- Charles W. Adams Associates, Inc., 142 The Great Road, Bedford, Mass. / Personnel with varied backgrounds and experience in scientific and business data processing, programming, man-machine communications, and development of large-scale utility systems / Feasibility studies; applications of computers to scientific and business problems; technical data handling; design of computer systems to process information from multiple locations / Ss(30) Se(1959) / *C 63
- Aeronautic Division, 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 / Ls(3000) Se(1956) / *C 64
- Aeronautic Division, Mathematics and Computing Group, Philco Corp., Ford Rd., Newport Beach, Calif. / IBM 7090, two IBM 1401 computers, 300 Amplifier EAI analog computer, A to D and D to A converters / Missile trajectories, rocket motor performance, aerothermodynamic heating, guidance and control, ordinary and partial differential equations, data reduction, business data processing / Ms(75) Se(1956) / *C 63
- Aries Corporation, 7722 Morgan Ave., S., Minneapolis 23, Minn. / Thirty-five professional employees including 20 with 7 or more years experience in real-time EDP programming, analysis and engineering / On-line, real-time problems involving analysis, evaluation and engineering for command and control, air traffic

Consulting Services

- blers, compilers, linking loaders, and programming systems / Ss(12) Se(1957) / *C 63
- 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 / Ss(10) Se(1955) / *C 64
- 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 Se(1954) / *C 64
- 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 / Ms(125) Se(1957) / *C 64
- EAI Computer 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 / Ss(19) Se(1956) / *C 64
- Ebasco Services Incorporated, 2 Rector St., New York, N.Y. / 2 Bendix G-15D with 2 magnetic tapes; Cdc G-20 on order; 16K buffered magnetic tapes, card I/O, 1000 line per minute printer; 10 engineers and consultants / Evaluation and design 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 / Ls(1500 - N.Y. office only) Le(1905) / *C 64
- 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 / Ss(45) Se(1954) / *C 64
- 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 / Ss(20) Se(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 / Ss(4) Se(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 / Ss(10) Se(1959) / *C 64
- General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / Computer input devices on hand; access to customer or rental computers / Programming services for all general purpose computers; recommendation, design and construction of automatic programming and automatic checking systems to fit specific needs; mathematical studies; numerical analysis; data reduction; information retrieval / Ms Se(1955) / *C 63
- Phillip 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 / Ss(11) Se(1959) / *C 64
- S. Himmelstein & Co., 6015 N. Ridge Ave., Chicago 26, Ill. / 1200 square feet of office space and 2000 square feet of combined laboratory and model shop area / Consulting/engineering services concerning magnetic storage systems, punched tape systems, photoelectric readers, high-speed printers, computer peripheral equipments; data acquisition, storage and processing systems engineering / Ss(10) Se(1961) / *C 63
- Hollander Associates, P.O. Box 2276, Fullerton, Calif. / 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 / Ss(9) Se(1961) / *C 64
- Honeywell, Inc., Queen & So. Bailey Sts., Pottstown, Pa. / Extensive experience in design and application of data processing equipment in real time / Instrumentation, measurement and control of industrial processes / Ms(350) Se(1958) / *C 64
- Information Processing Systems, Inc., 200 W. 57 St., New York 19, N.Y. / General consultant in use and application of EDP systems / - / Ss(?) Se(1963) / *C 64
- Ing, firma Nordisk ADB AB, Fack, Solna 1, Sweden, Subsidiaries: Nordisk ADB, Waerner & Co., Ramistrasse 8, Zurich; Nordisk ADB Deutsche GmbH, Bonner Strasse 117, Dusseldorf, Germany; Iberica ADB, Torre de Madrid, Madrid 13, Spain / Specialize in civil engineering, data processing. The programming staff includes 12 civil engineers, specializing in road planning and structure. Develop large scale systems for road departments in Europe / Systems for road planning and construction / Ss(30) Se(1959) / *C 63
- 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 Se(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 / Ms(270) Me(1949) / *C 64
- 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 / Ss(41) Se(1957) / *C 64
- Mesa Scientific Corporation, 2930 W. Imperial Hwy, Inglewood, Calif. / Consulting in systems analysis and synthesis, logic design, circuit design, mathematical analysis, programming systems, and programming related to computers, automatic checkout systems, guidance and control systems / Analysis and design of digital equipment; command and control systems; data acquisition, conversion, storage, and display systems. Consultants to industry and government on all phases of computer technology / Ss(25) Se(1957) / *C 64
- National Bureau of Standards, Conn. and VanNess 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 / Ss(20) Me(1947) / *C 64
- The National Cash Register Co., Dayton 9, Ohio / 253 locations in the U.S. and Canada, staffed with over 3000 systems and programming personnel / Business system design, programming applications, operations research. Consulting services available to customers; no contract consulting service / Ls(59,000 - world-wide) Le(1004) / *C 63
- 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 / Ss(1) Se(1961) / *C 64
- Scientific Computing Service Ltd., 23 Bedford Sq. London, W.C.1, England / Access to: Ferranti, Elliott, English Electric, IBM, and Cambridge University EDSAC electronic digital computers; miscellaneous electric and hand desk calculators / General consulting; computations for commerce and industry; advanced applied research; pure research; developing problems in mathematical and statistical fields to the point where they may be effectively computed, then recommending the means / Ss(16) Me(1939) / *C 63
- Space Services Division, Statistical Tabulating Corp., 104 So. 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 / Ls(5000) Me(1933) / *C 64
- Statistical Tabulating Corp., 104 So. 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 / Ls(5000) Me(1933) / *C 64
- Tabulating Service of Dallas, 1222 Ft. Worth Ave., Dallas 8, Tex. / Two 402's, two 514's, 083, 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 / Ss(20) Me(1946) / *C 64
- TASK FORCE, Division of Statistical Tabulating Corp., 104 So. 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; book-keeping 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 / Ls(5000) Me(1933) / *C 64
- Technical Operations Research, South Ave., Burlington, Mass.; Washington Research Center, 3600 M St. N.W., Washington, D.C. / Operations research, automatic programming systems, digital simulations, war gaming (access to computers) / Industrial, commercial, and military / Ls(600) Me(1951) / *C 64
- Teletcomputing 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 / Ms(420) Me(1947) / *C 64
- United Nuclear Corporation, 660 Madison Ave., New York 21, N.Y. / CDC-1604-A computer, IBM 088, 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 / Ls(1500) Me(1948) / *C 64
- 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 / Ms(350) Me(1946) / *C 64
- Westgate Laboratory, Inc., 506 S. High St., Yellow Springs, Ohio / Research, development, prototype, and small lot production in electronics, physics, optics and photography; simulators and missile guidance equipment, digital computing and consulting services, controls, X-Y plotters and vehicle position displays, radio receivers and transmitters, Industrial Instrumentation, can leak testers, airborne servo systems for cooling of electronic equipment, eye movement cameras, air traffic control instrumentation / Ms(55) Se(1956) / *C 63
- Westinghouse Electric Corp., Advanced Systems Engineering and Analytical Dept., E. Pittsburgh, Pa. / Experienced engineers and scientists in solution of advanced problems; full complement of computing equipment. Digital: 7094, 1401, Analog: Anacon electronic differential analyzer. Prodac 500 on-line control computer and systems laboratory / Electric utility systems studies, mechanical studies, management applications, nuclear applications, control system optimization, automatic design. Development on-line and off-line programs; solution of problems requiring hybrid analog-digital methods / Ms(100) Le(1929) / *C 63
- Wolf Research and Development Corp., P.O. Box 36, W. Concord, Mass. / Specialists available for consulting in the fields of applied mathematics, including applied mechanics and geodesy; electronic and logical circuit design; scientific management techniques; computer systems and applications / Ms(200) Me(1954) / *C 64

- 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 _____

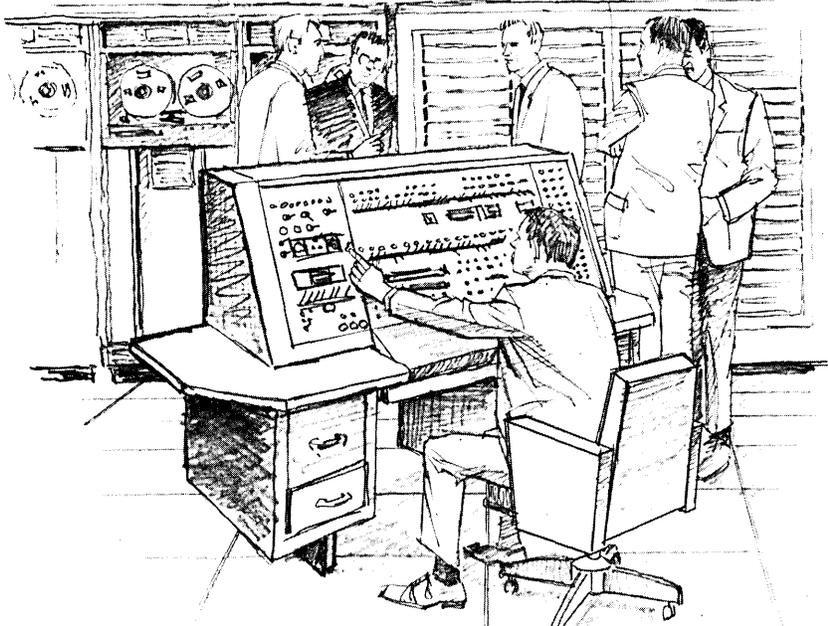
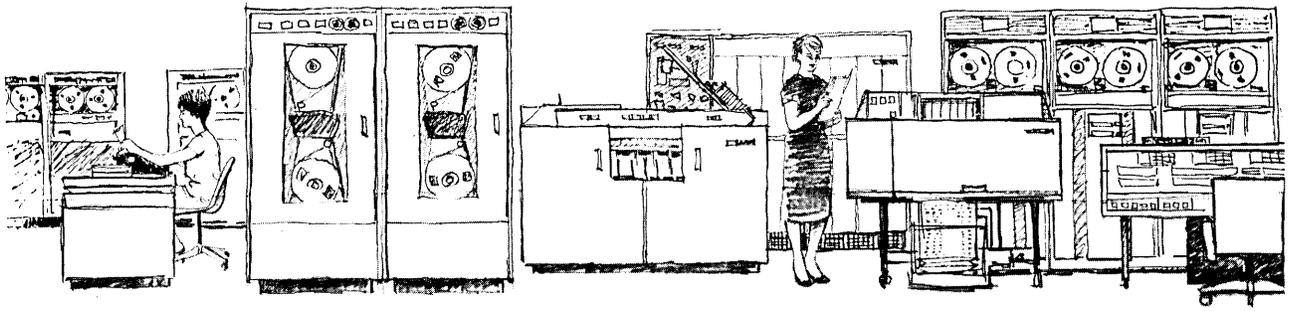
Each full entry from an organization that replied to the survey is in the form of: Name and address of software supplier / Facilities / Types of software supplied / Size and year of establishment. Other entries should be self-explanatory.

The abbreviations used include the following:

- Ss - Small size, up to 50 employees;
- Ms - Medium size, 50 to 500 employees;
- Ls - Large size, over 500 employees (number in parentheses is number of employees);
- Se - established a short time ago, 1951 or later;
- Me - established a medium time ago, 1931 to 1950;
- Le - established for a long time, 1930 or earlier (number in parentheses is year of establishment);
- *C - "Checked" by the organization; "64" means "in 1964", etc.

All additions, corrections, and comments will be welcome.

- Abacus Information Management Co., P.O. Box 399, New York 8, N.Y. / Knowledge of computer and assembler construction, maintenance, and evaluation. Experience with all IBM, Honeywell, RCA, and Control Data software and problems which at times 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 Se(1962) / *C 64
- Aries Corporation, 7722 Morgan Ave. S., Minneapolis 23, Minn. / Programming staff has contributed directly to the program systems of NIDS, SAGE, DNCCC, JOVIAL for the CDC 1604, CS-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 / Ss(38) Se(1962) / *C64
- 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 / Ss(3) Se(1955) / *C 63
- 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 / Ss(18) Se(1956) / *C 63
- 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 / Ss(9) Se(1964) / *C 64
- Computer Methods Corp., 107 Mamaroneck Ave., White Plains, N.Y. / Staff includes specialists in real-time processing, simulation techniques, utility systems, and report generators / Control programs, utility systems, sorts, and report generators / Ss(16) Se(1961) / *C 63
- 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 / Ss(15) Se(1960) / *C 64
- Data Processing, Incorporated, 1334 Main St., Waltham 54, Mass. / Consulting services include software support for both computer manufacturers and users / Experience in this area includes original developments in assemblers, compilers, linking loaders, debugging routines, automatic programming systems, and operating systems. Currently under development is a proprietary programming system for the 7094 with such features as open-ended compiler and automatic memory reallocation / Ss(12) Se(1957) / *C 63
- Dela Data Corporation, 3134 Shane Dr., Richmond, 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 / Ss(6) Se(1959) / *C 64
- 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. / Ss(19) Se(1956) / *C 64
- Electronic Associates, Inc., Research & Computation Div., P.O. Box 582, Princeton, N.J. / 4 Model 231-R PACE 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 / Ss(45) Se(1954) / *C 64
- Electronic Associates, Inc., Research & Computation Div., Integrated Controls Dept., 4151 Middlefield Rd., Palo Alto, Calif. / 2 Model 231-R, 120 amplifier PACE analog computers, 2 TR-48, one 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 / Ss(20) Se(1963) / *C 64
- Dr. Ivan Flores, So. Huckleberry Dr., Norwalk, Conn. / Specialize in analysis, integration, and setup of software program rather than production / Systems analysis and software-hardware integration, for special and general purpose computers / Ss(3) Se(1960) / *C 64
- Honeywell, Inc., Queen & So. Bailey Sts., Pottstown, Pa. / Experience in real time programming; special software includes library of routines and diagnostics. FORTRAN II compiler on industrial computer / Programming and software experience in basic oxygen furnaces, chemical plants, refineries, etc. / Ms(350) Se(1958) / *C 64
- IIT Data Processing Center, Paramus, N.J. / Staff of 250 analysts, programmers, mathematicians and engineers. Backgrounds include every major computer system in existence. Experience includes a full range of applications including operations research, scientific and commercial data processing, 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 / Ms(300) Se(1958) / *C 64
- J. Kates and Associates, a Div. of KCS Ltd., 20 Spadina Rd., Toronto, Ontario, Canada / Programmers trained on a variety of manufacturers' computers / Large OR systems, some real-time programming, etc. All types of software development / ?s Se(1954) / *C 64
- Mellonics Systems Development, Inc., 300 Sunnyvale Office Center, Sunnyvale, Calif. / Operating from two newly completed buildings having a floor area in excess of 10,000 sq. ft. Facilities include electronic accounting machines, complete report production facilities, graphic arts, illustration and audio/visual aid facilities / Systems engineering performed for computer applications, digital computer programming, management engineering services, audio/visual aids, systems simulations and development and implementation of ground data handling environment for military satellite control systems / Ms(53) Se(1961) / *C 64
- Mesa Scientific Corp., 2930 W. Imperial Hwy., Inglewood, Calif. / Professional personnel averaging more than 10 years experience in the computer field. Heavy experience in real time applications and special purpose computers / Programming languages, job-oriented compilers, real time programs, hybrid computer programs, automatic checkout, data acquisition, missile, satellite, and aircraft computer programs / Ss(25) Se(1957) / *C 64
- The National Cash Register Co., Dayton 9, Ohio / Three major software producing groups: 390 sales, Programming Research Dept. (for larger computers), and Data Processing Systems and Sales Dept. Software Section of Project Specifications Dept. at Electronics Division, Hawthorne, Calif. All groups except 390 use 3-315 installations on about half time basis. 390 Dept. has staff in Dayton for programming research, development of routines, techniques, programs / General hardware-oriented programs (compilers, macros, sort generators, executive programs, etc.); language translators (COBOL, FORTRAN, etc.); application packages (banking, retail, industrial users); scientific programs (subroutines, operations research, PERT, etc.). 390 has standard routines; standard sort packages; application packages for banking, retail, industrial, government; mathematical programs. Current software for 315 and some 304 with tapes, and/or CRAM (Card Random Access Memory). 390 has prebuilt macro instructions (human language interpreters such as COBOL and FORTRAN not required) / Ms(107) Se(1956) / *C 63
- Programmatics, Inc., 11753 Wilshire Blvd., Los Angeles, Calif. 90025 / Staff has had extensive experience in the design and implementation of the most widely used software systems, and each staff member has been a key figure in the successful completion of major software systems including ALGOL, COBOL, and FORTRAN / Systems programming; programming research and production of compilers, assemblers, monitor and operating systems; general systems programming / Ss(8) Se(1963) / *C 64
- Systems Programming Corporation, 1833 E. 17th St., Santa Ana, Calif. / Senior system analysts, mathematical analysts and programmers with much experience in real-time systems, command and control systems, scientific computing, and computer software. Computer consulting services, software packages, and computer programming for industry and government / Supply compilers, assemblers, sort generators, executive routines, translators, input-output routines and problem-oriented programming languages / Ss(30) Se(1962) / *C 63
- Technical Advisors, Inc., 104 W. Huron St., Ann Arbor, Mich. / Staff of civil engineers and land surveyors specializing in small computer programs and systems with particular reference to the LGP-21, LGP-30, and RPC-4000 computers / Programs and systems covering all phases of surveying and subdivision engineering and planning / Ss(10) Se(1954) / *C 64
- Telecomputing Services, Inc., 8155 Van Nuys Blvd., Suite 250, Panorama City, Calif. 91402 / Computer software development and maintenance services 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.; Sidell, La.; and Huntsville, Ala. Capability exists for the development 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 control, intelligence, meteorological and satellite orbital data. Business computer software employed for management information processing, PERT, inventory control, payroll and labor distribution / Ms(420) Me(1947) / *C 64
- P.O. Box 36, W. Concord, Mass. / Large staff of analysts and programmers with experience in most commercially available computing equipment / Ms(200) Se(1954) / *C 64



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Following are some of the positions for which we are currently conducting recruiting and search assignments:

■ Manager of Data Processing Manufacturing	\$12,500	■ Senior Programmer Manufacturing	\$10,000
■ Senior EDP Consultant Manufacturing	\$18,000	Scientific & Engineering	\$15,000
■ Lead Systems Analyst Banking	\$13,000	■ Junior Programmer Banking	\$7,500
Manufacturing	\$15,000	Manufacturing	\$8,700
Publishing	\$20,000	Operations Research	\$8,500
■ Lead O/R Analyst Publishing	\$18,000	Publishing	\$8,200
■ Senior Systems Analyst Banking	\$11,000	■ Service Center Sales Scientific & Engineering	\$12,000
Manufacturing	\$11,000	■ Systems Representative Manufacturing	\$15,000
■ Senior O/R Analyst Manufacturing	\$20,000	■ Territory Sales Manufacturing	\$15,000
■ Junior O/R Analyst Manufacturing	\$12,000	Scientific & Engineering	\$12,000

All fees are assumed by our clients. All negotiations are handled in complete confidence. Registration of computer and O/R people not actively seeking a position change but interested in considering opportunities for which they are qualified are cordially invited.

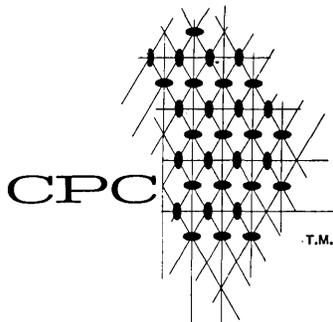
Computer Personnel Consultants, Inc. specializes *exclusively* in the recruitment of professional *computer and O/R* personnel.

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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 computers 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.

Percent Good Time: good time divided by attempted-to-run time, expressed as percent.

Abbreviations Used

B -- binary
D -- decimal
FBD -- fast bands on memory drum
K -- 1000
KK -- 1,000,000
m -- millisecond, thousandths of a second
N -- no, none
O -- octal
P -- punch, output
R -- read, input
u -- microsecond, millionth of 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 2100, ASI 420

Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.

ALWAC III-E

The Bunker-Ramo Corp., 8433 Fallbrook Ave., Canoga Park, Calif.

BR-133, BR-330, 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

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-3200, CDC-3400, CDC-3600, CDC-6600, CDC-8090,
CDC-8092, G-15, G-20

Digital Equipment Corp., Main St., Maynard, Mass.
PDP-1, PDP-4, PDP-5, PDP-6

General Electric Co., Computer Dept., 13430 N. Black Canyon Highway, Phoenix, Ariz.

GE-210, GE-215, GE-225, GE-235, GE-415, GE-425, GE-435

Digital Computers

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.
H-400, H-800, H-1400, H-1800
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 650, 704, 705 III, 709, 1401,
1410, 1440, 1460, 1620, 1620 MODEL II, 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, 390
Packard Bell Computer Corp., 2700 S. Fairview St., Santa Ana,
Calif. 92704
PB 250, PB 440
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
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 III, 1050,
1103A, 1105, 1107, Univac File Computer I, II, Univac
Larc, Univac SS 80/90 II

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 8192	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	3	2	21	4-32K	core	1.1u	6u	50u	52u	76	1	3	Y	N
-- 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	4-32K	core	1.1u	4u	30u	44u	87	1	3	Y	N
-- Automatic checking by trapped interrupt; multi-level priority interrupt																
BR-133	Y	B			15	8-16K	core	2u	4u	19u.	19u		6		Y	N
-- Parity check; variable length multiply and divide																
BR-330	Y	B			28	7-130K	drum	8.3u	.26m	1.3m	1.43m	93	284	1-3	N	Y
-- Parity and overflow checking																
BR-340	Y	B			28	4-65K 8-131K	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	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	96	1	1	N	Y
-- Running time clock. Checks for forbidden combination and overflow. Partial word operations.																
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.																
CDC G-15	N	D	4	2	7	16 2K	FBD drum	.54m 14.5m	.54m	8m	8m	100	1	Y	N	N
-- Repeat command, indexing by means of interpretive system only																

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CDC G-20	Y	0	3	10	4-32K	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	3	6	12	40%	core	6.4u	6.4u - 19.2u		65	1	0	Y	N	
-- Relative and direct addressing; multiply and divide are programmed.																
CDC-160A	Y	B	3	6	12	8-32K 32-64K	core drum	6.4u 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-924	Y	B	3	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	3	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-3200	Y	B	3	6	24	64 transistor 8-32K	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	3	6	48	16-32K	core	.7u	2.95u	17.6u	17.6u	76	1	6	Y	Y
-- Parity checking on I/O transfers and storage.																
CDC-3600	Y	B	3	6	48	32-262K	core	.7u	2u	2.12 - 6.5u	2.12 - 14.9u	104	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-6600	Y	B	6	6	60	2 ¹⁵ plus 10x2 ¹²	core	.5u	.4u	1u	2.8u	64	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-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.																
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.																
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	1	6	20	4-16K	core	36u	72u	216u	504u	300+	1	96	N	Y
-- Double precision arithmetic.																

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GE 225	Y	B	1	6	20	4-16K	core	18u	36u	162u	460u	300+	1	96	N	Y
-- Double precision mode. Floating point optional.																
GE 235	Y	B	1	6	20	4-16K	core	6u	12u	30u	42u	300+	1	96	N	Y
-- 4-bit decimal add and subtract; 3 digits per word. 40-bit floating point multiply, 42u floating point divide, 72u.																
GE 415	Y	D,B	6	6	24	4-32K	core	9.2u	27.6u	483.2u	878u	200+	1-2	6		
-- Any-level indexing by any memory word. Scatter/gather; automatic program interrupt; relocatable accumulator																
GE 425	Y	D,B	6	6	24	4-32K	core	5.1u	15.9u	361.9u	598.5u	200+	1-2	6		
-- See GE 415																
GE 435	Y	D,B	6	6	24	4-32K	core	2.7u	8.8u	250.8u	449u	200+	1-2	6		
-- See GE 415																
General Precision LGP-21	Y	B	6	4	32	4K	disk	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.																
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-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	D	1.5	12		1-4K	core	8u	120u			48	3	3	N	N
-- May be used as binary machine with 48 bit word.																
H-000	Y	D		12		4-32K	core	6u	24u	150u	312u	51	3	64	Y	Y
-- 8 multiple channel programming. Can be used as a 48 bit word size binary machine.																
H-1400	Y	D	4	12		4-16K	core	6.5u	77u				3	3	Y	Y
H-1800	Y	D	4	12		8-32K	core	2u	8u							
-- May be used as 48 bit machine, with both binary and decimal instructions included. Up to eight programs can be processed simultaneously.																
HW-15K	Y	B	6	6	24	4K	drum	8.5m	650u	500u	800u	12	1	0	N	N
-- 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 8-64K	core 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 650	N	D			10	60 1-4K 6-12KK digits	core drum disk	.1m 2.4m 425m	.7m .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.																

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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 705III	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.																
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 printers, 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 7010	Y	D	6	6	6	40-80K	core	2.4u	35.2u	260u	V	114	0,1, 2	15	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.																

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IBM 7090	Y	B	3	2	36	32K 28-280K 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.																
IBM 7094 II	Y	B	3	2	36	32K 28-280K 1-10KK	core disk drum	1.4u 160m 8.6m	2.6u	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 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.																
PB 250	Y	B	1		22	16	delay	.09m	12u	276u	252u	59	1	1	N	Y
-- Parity checking. Memory consists of magnetostrictive delay lines.																
PB 440	Y	B,D, 0	6	24+	256-4096	biax core	1u 3u	1-11u	13-38u	59u	200+	1	7+	Y	Y	
-- Instructions comprising a command set are completely microprogrammed. Memory parity, I/O parity, automatic and/or programmed interrupt.																
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	6	6	36	8-262K	core 16 flip-flop	2u .4u	4.3u 2.7u	16.1u 14.5u	25u 23.4u	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.																
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 BIT 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. Psynchronous 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.																

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RCA 301	Y	D	6	1	2	10-40K	core	7u	189u	1.7-4.2m	2.1-17.1m	48	2	0	Y	Y
-- Multiply and divide are programmed. Scientific model of 301 processor provides high speed fixed or floating point arithmetic operations.																
RCA 501	Y	B	6	1	4	16-262K	core	12-15u	360u	1.9 - 9.6m	1.3 - 2.4m	49	2	7	Y	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	D	6	6	10	200	core	250n	32u	.411u	1.93u	61	2	3	Y	Y
40-160K core 1.5u 12u 31.13u 55.75u -- 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.																
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	trans.	1m	340m	170m	170m	64	1		N	N
10K drum 8.5m 8.5m 170m 170m -- 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	core	4.8u	6.7u	29.76u	69u	62	1	8	N	N
78KK drum 17m -- 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	Binary	6	6	V	60-120	vacuum		10m	50m	50m	10	3		N	Y
digits -- 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				961 char.						62				
Univac 1004-III	Y	B			V	961 char.	core	8u	160u	4880u	7668u	62	2		N	N
Univac 1050	Y	B,D	6	6	5	8-65K	core	2u	63u	196u	266u	47	1	7	N	N
4-32K core 4.5u 31u 42u 93u -- 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	core	8u	60u	410u	490u	50	2	0	N	Y
16-32K drum 17m -- Parity, overflow, lockout, main control checks. Interrupt feature and repeat command.																

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 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	Biquinary	4	6	10	1280 200-1200 2400-7600	core drum drum	17u 425u 1700u	136u	688u	1173u	76	1	9	N	Y
-- 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	250R 100P	500R 110P	400
-- Peripheral equipment can operate independently and simultaneously; buffered communication; independent program interrupt. MRWC; plotters, typewriters, A to D - D to 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 to D - D to A, remote capabilities, multi computer to computer communication link.							
BR-133	-- I/O operations controlled through 3-level priority interrupt system. Optional high speed capability.						
BR-330						60R 60P	300
-- 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.							

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
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.						
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	1000R 250P	500R 100P	1000 1500
	-- 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	1300R 100P	350R 110P	1000 150
	-- Overlap start-stop time. Magnetic drum, plotters, A/D converters, typewriter.						
CDC-160A	40	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-924	48	200-556	15-41.7K	4KK	1300R 100P	350R 110P	1000 150
	-- 3 bi-directional buffer channels. Simultaneous read, write and compute. Mag-drum, plotter, A/D, typewriter.						
CDC-924A	-- Same as 924.						
CDC-1604	48	200 800	15-120K	2KK	1200R 250P	350R 110P	1000
	-- Multiple read-write-compute. 3 bi-directional buffer channels. 1 high speed channel.						
CDC-1604A	-- Same as 1604.						
CDC-3200	512	200-556	120K	4KK	1200R 250P	350R 110P	1000
	-- Multiple read-write-compute.						
CDC-3400	512	200-800	15-120K	2KK	1200R 250P	350R 110P	1000
	-- Multiple read-write-compute. Disk, drum, typewriter.						
CDC-3600	4,096	200-556- 800	15-120K	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-6600	1,536	1600	120-240K	1.6KK	1200R 250P		1000
	-- 12 simultaneous read, write and compute. Disk, drum, display devices.						
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.						

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
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 AU, 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.						
DDP-224	64		45-112-150K 25-62.2-83.3		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, ADC, DAC, 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.						
GE 210	13			30K	1500R 100P	500R 60P	1000
	-- Read-write-compute. Magnetic document sorter-reader available. Printer can print magnetically encoded characters.						
GE 215	8	200	15K	2KK	1500R 300P	1000R 110P	900
	-- Multiple read-write-compute. Magnetic document sorter-reader available. Disk file with access time of 199m. Data communications equipment available.						
GE 225	64	200 200-556	15 15-42-60K	2KK 5KK	1500R 300P	1000R 110P	900
	-- See GE 215						
GE 235	56	200 200-556	15K 15-42-60K	2KK 5KK	1500R 300P	1000R 110P	900
	-- See GE 215						
GE 415	56	200-556 800	7-20-29 15-42-60	5.5KK	900R 100P	500R 150P	1200
	-- Multiple read-write-compute. MICR document sorter-reader. Disc storage unit with access time of 199 milliseconds. Data communications equipment available.						
GE 425	56	200-556 800	7-20-29 15-42-60 30-83	5.5KK	900R 100P	500R 150P	1200
	-- See GE 415						
GE 435	56	200-556 800	7-20-29 15-42-60 30-83-120	5.5KK	900R 100P	500R 150P	1200
	-- See GE 415						
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 1000	N					200, 500R 20, 300P	
	-- No simultaneous paper tape-compute.						
H-330	128		30-83K		1500R 300P	350R 110P	1000
H-400	64		64K		800R 250P	1000R 110P	900
	-- Automatic magnetic tape error correction. Tape reads in both directions.						
H-800	64		64K		800R 250P	1000R 110P	900
	-- Automatic magnetic tape error correction. Tape reads in both directions.						
H-1400	16		32-89K		800R 250P	1000R 110P	900
	-- Program interrupt available.						

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
H-1800	64		89-124K		800R 250P	1000R 110P	900
	-- Magnetic tapes read forward and reverse with orthotronic error correction.						
HW-15K	N				N	20R 20P	N
	-- 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 System/360	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. inquiry display terminal. Remote inquiry terminals include process control units.						
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 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	600-3,300
	-- 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 7010	20	200- 800	23- 90K	V	800R 250P	500R	600
	-- 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.						

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 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.							
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 7607 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 4050 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	8	200-333- 500	24-60K	5.7-9.5KK	2000R-400R 100P	1000R 110P	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 (200m access time) units allow 240 postings per minute. Up to 4 buffered MICR sorter-readers can process 750 checks per minute.							
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.							
PB 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.							
PB 440	8	200- 556	150		800R 250P	110R 110P	1000
-- 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.							

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-1	24	200- 800	1-90K	2-7.5KK	200P,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-A converters, multiplexers, drums, plotters available.							
PDP-4	24	200- 556	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.							
PDP-6	32	800	90K		200R,800R 100R,300P	400R 63.3P,110P	300,600 1000
-- Simultaneous read and write and compute. CRT, large drum, time-sharing via communication sub-system, TTY. Parity, sum check.							
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	18	333- 667	10-33- 66K	2-9KK	800R 250P	100-1000R 100-300P	1000
-- 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	2.5-4.5KK	600R 200P	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	15-30-33-42- 800 66-83.4-120K	6-22KK	900-1470R 300P	100-1000R 100-300P	1000 120-160
-- 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.							
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.							

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-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. Col. 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 of 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.							
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.							

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 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 80/90II	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	Percent Good Time
ALWAC III-E	\$2,400	\$1,820-\$3,600	\$50,000-\$80,000	7.4KW	35 (computer)	85°F	95
-- Scientific, real-time, business. Computer is modular and extra units are easily added.							
ASI-210	\$3,000	\$2,000-\$7,000	\$78,000 and up	1.75KW	35	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	\$4,000	\$2,750-\$8,000	\$87,800 and up	1.56KW	14	N	
-- Scientific, real-time; Assembler (ASIST), FORTRAN II available; built on modular basis.							
BR-133				1.5KW		N	
-- No extensive installation site preparation.							
BR-330	\$5,000		\$150,000-\$400,000	500W	30		99+
-- Real-time, industrial process control. PROCMP, includes FORTRAN II and process control statements.							
BR-340	\$6,000		\$200,000-\$400,000	2000	48		99+
-- Real-time, industrial process control. PROCMP 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	97
-- Scientific and business. Datacode compiler, STAR-O 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	95
-- 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.							
CDC G-15	\$1,530	\$1,485 and up	\$49,500 and up	3.8KVA	100	N	96
-- 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		
-- Scientific and business. Power requirements are for the computer only. Desk size. FORTRAN, OSAS (assembler).							

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	Percent Good Time
CDC-160A	\$4,500	\$2,250 and up	\$90,000 and up	115V	12	Y	98+
	-- Scientific, real-time, business. Space stated for computer only. FORTRAN, AUTOCOMM (commercial compiler), OSAS, SICOM.						
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	98+
	-- 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-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	\$25,000	\$13,750 and up	\$622,000 and up	10KVA	250	2.5	
	-- Scientific, real-time, business. SCOPE, COMPASS, FORTRAN, COBOL, SORT. Power and space requirements refer to computer and console only.						
CDC-3600	\$59,000	\$35,000 and up	\$1,400,000 and up	20KVA	1500	6	98+
	-- Scientific, real-time, business. FORTRAN, COMPASS (assembler), SCOPE (MONITOR), COBOL, SORT. Typewriter included in main console; real-time clock.						
CDC-6600	\$170,000	\$148,000 and up	\$5,915,000 and up	25KVA	1000		
	-- Scientific, real-time, business. Air Cond. on peripheral equipment only. Heat exchanger for cent. proc. unit. Assembler, FORTRAN operating system. Peripheral equipment and core storage.						
CDC-8090		\$29,000 and up				N	
	-- Scientific, real-time, not real-time, business. Industrial Control Processor, OSASA, FORTRAN, Insetro, 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.						
DDP-24	\$2,500	\$2,500-\$17,500	\$79,000-\$700,000	115V	100		99
	-- 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	98
	-- 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	98+
	-- 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.						
GE 210	\$14,000		\$700,000	10KVA	1200	3	
	-- One pass compiler, report generator.						
GE 215	\$6,000		\$375,000	10KV	1200	3	
	-- Program and peripheral compatible with GE 225 and 235 Assembly, GECOM compiler COBOL, WIZ scientific compiler, ZOOM compiler, FORTRAN, Report Generator, Card Program Generator, CPM.						
GE 225	\$8,000		\$400,000	10KVA	1200	3	
	-- Program and peripheral compatible with GE 215 and 235. Assembly, GECOM compiler COBOL, WIZ scientific compiler, ZOOM compiler, FORTRAN, Report Generator, Card Program Generator, CPM.						
GE 235	\$10,900		\$525,000	25KV	1170	5	
	-- Program and peripheral compatible with GE 215 and 225. Assembly, GECOM compiler COBOL, WIZ scientific compiler, ZOOM compiler, FORTRAN, Report Generator, Card Program Generator, CPM.						
GE 415	\$7,300		\$350,000	10KVA	500		
	-- Program and peripheral compatible. FORTRAN, COBOL, Macro Assembly Program, Report Program Generator, Sort/Merge Generator, Operating System, I/O System available.						
GE 425	\$9,600		\$475,000	10KVA	600		
	-- See GE 415.						
GE 435	\$14,000		\$675,000	12KVA	700		
	-- See GE 415.						

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	Percent Good Time
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	Not Available
	-- 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		99
	-- 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-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	\$8,700	\$8,700-\$12,000	\$397,000	15KVA	600	5	
	-- EASY Assembly.						
H-800	\$22,000	\$12,000-\$30,000	\$980,000	30KVA	1400	7	
	-- Argus Assembly; Algebraic and Data Proc Fact compiler.						
H-1400	\$10,800	\$8,000-\$10,000	\$256,000-\$320,000				
	-- Scientific, business and real-time applications. COBOL '61 and AUTOMATH programming systems available.						
H-1800	\$35,000	\$30,000-\$60,000	\$950,000-\$2,000,000				
	-- Business compilers: FACT, COBOL '61 (163). Algebraic compilers: AUTOMATH 800, AUTOMATH 1800 (163).						
HW-15K	\$475	\$355-\$600	\$19,750-\$26,000	110V	10	N	
	-- Scientific, real-time, business, process control applications.						
IBM Ramac 305	\$3,600	\$2,875 and up	\$167,850 and up	12.6KVA	370	4	
	-- Business. Extra units easily added; computer built on a modular basis. 305 assembly program. Prices exclude tax.						
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	\$3,750-\$21,500	\$182,400-\$1,100,000	18KVA	150	5	
	-- Scientific, business. SOAP assembly. Extra units easily added. Prices exclusive of tax.						
IBM 704	\$35,000		\$400,000 and up	110KVA	2200	45	
	-- Scientific, real-time, business. Computer built on a modular basis; extra units easily added. UASAP and FORTRAN compilers. Prices exclude tax.						
IBM 705 III	\$42,000	\$28,000-\$50,000	\$1,400,000-\$2,500,000	85KVA	1500-2000	15-20	
	-- Business and limited scientific. COBOL, PRINT, Autocoder III compilers. Modular construction; extra units easily added. Prices exclude tax.						
IBM 709	\$55,200		\$2,630,000 and up	150KVA	3000	50	
	-- Scientific, real-time, business. Compilers: IBM SOS, SHARE, FAP, FORTRAN. Modular construction; extra units easily added. Prices exclude tax.						
IBM 1401	\$6,500	\$1,900 and up	\$125,150 and up	7-16KVA	450	3.5	
	-- Scientific, business. SYMBOLIC, Autocoder assemblies; FORTRAN compiler. 7KVA without tape units. Prices exclusive of tax. Extra units easily added.						
IBM 1410	\$11,000	\$5,365 and up	\$244,550 and up	29KVA	500	5	
	-- Scientific, real-time, business. Basic Autocoder assembly; FORTRAN compiler. Extra units are easily added. Prices exclude tax.						
IBM 1440	\$2,800	\$1,540-\$5,500	\$90,000 and up	208,230V	1441		
	-- Business. Autocoder, IOCS, File Organization, Utilities, Sort, RPG. Extra units provide upward growth to 1401, 1460, and 1410. Random access, low cost, processing system.						
IBM 1460	\$9,000	\$4,835 and up	\$236,000 and up	7-16KV	450	3.5	
	-- Symbolic, Autocoder assemblies, FORTRAN compiler. Built on modular basis with extra units easily added.						
IBM 1620	\$1,600	\$1,600-\$5,000	\$74,500-\$200,000	15A,230V	22	N	
	-- Scientific, real-time. FORTRAN, GOTRAN compilers. Symbolic Assembly Program. Floor space refers to computer area only. Extra units easily added. Prices exclude tax.						
IBM 1620 MODEL II	-- Same as Model I						
IBM 7010	\$20,000	\$18,000-\$35,000	\$945,900	208V 230V	500	20K	
	-- Scientific, real-time, business. Autocoder, COBOL, FORTRAN. Built on module basis with extra units easily added.						
IBM 7030 (STRETCH)	\$160,000		\$5,000,000-\$7,000,000				

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	Percent Good Time
IBM 7040	\$11,850		\$625,600	13.9KVA	1220	2.5	
	-- Scientific, real-time, business. Assembly and compiler programs: FORTRAN, COBOL, 7090 simulator.						
IBM 7044	\$21,850		\$1,400,000	19KVA	1220	4	
	-- Scientific, real-time, business. Assembly and compiler programs: FORTRAN, COBOL, 7090 simulator.						
IBM 7070	\$24,000		\$1,077,400	45KVA	1200	6	
	-- 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.						
IBM 7072	\$19,825		\$860,550	45KVA	1200	6	
	-- Scientific. FORTRAN, AUTOCODER compilers. Program compatibility with 7070, 7074. Extra units are easily added; computer is built on a modular basis. Prices exclude tax.						
IBM 7074	\$29,300		\$1,284,350	45KVA	1200	6	
	-- Scientific. IOCS, FORTRAN, AUTOCODER compilers. Computer built on a modular basis; extra units easily added. Prices exclude tax. Program compatibility with 7070; 7072.						
IBM 7080	\$55,000	\$45,000-\$70,000	\$2,100,000-\$3,200,000	50KVA	1000-2000	7.5-10	
	-- Business and limited scientific. AUTOCODER III, FORTRAN compilers. Modular construction; extra units easily added. Prices exclusive of tax and off-line 1401.						
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	98
	-- 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	99
	-- 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	99.5
	-- 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	97+
	-- Scientific, real-time, business. Modular construction permits extra units to be easily added. NEAT and COBOL compilers. Assembler, FORTRAN II, Flexible Algebraic Translator.						
NCR 390	\$1,270	\$995-\$1,860	\$49,500-\$79,000	230V	247	N	98
	-- Business, engineering.						
PB 250		\$1,200-\$1,350	\$21,800-\$28,900	115V	4	N	99+
	-- Scientific, engineering. Floor space refers to computer and console only. Modular construction permits extra units to be added easily. SNAP assembly program, NELIAC compiler.						
PB 440	\$2,961	\$3,214-\$3,800	\$110,000-\$130,000	110V			
	-- Scientific, real-time. Utilizes Fortran I and II. Employs dual memory stored logic.						
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-\$500,000	4KW	80	N	99.9
	-- 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 218 words of memory. Ultra-Fast memory, 15 index registers, 16 accumulators.						
Philco 1000	\$7,000	\$3,000-\$12,500	\$250,000-\$750,000		400	4-6	69
	-- Scientific, real-time, business. Since built on modular basis, extra units easily added. OPAL program.						
Philco 2000-210	\$30,000	\$20,000-\$50,000	\$1,000,000-\$2,000,000	24KVA	800	10-12	99
	-- 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	99
	-- 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	99
	-- Scientific, real-time, business. Extra units are easily added. TAC, ALTAC, FORTRAN IV, COBOL, TOPS compilers.						

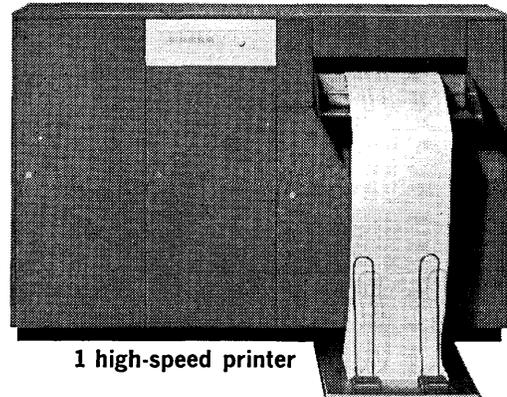
Digital Computers

COST AND USE

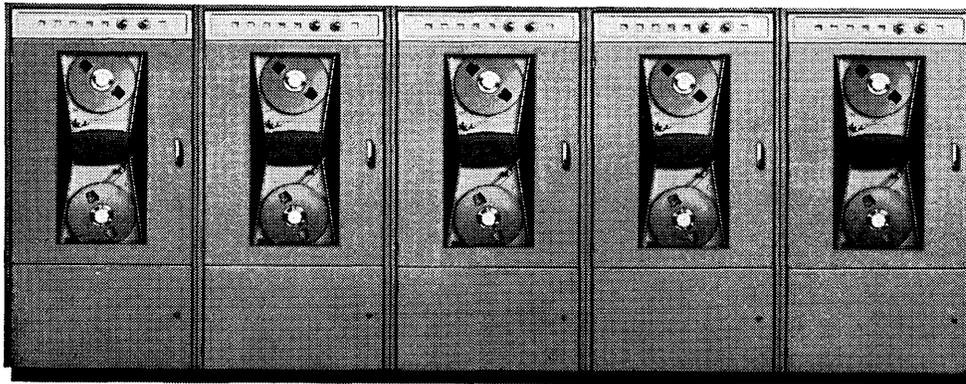
NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space -- Sq. Ft.	Air Cond. -- Tons	Percent Good Time
Philco 4000	\$4,000	\$2,250-\$9,500	\$200,000-\$500,000		400	4-6	
	-- Scientific, real-time, business. Built on modular basis with extra units easily added. OPAL program.						
RCA 301	\$5,000	\$3,600-\$16,000	\$268,000-\$827,000	19KVA	400	4	
	-- Business, scientific. Assembly program, COBOL compiler, FORTRAN, File control processor.						
RCA 501	\$16,000	\$11,000-\$26,000	\$1,000,000	30KVA	1200	8	
	-- Business. Assembly and compiler programs.						
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.						
RCA 3301	\$13,000	\$10,500	\$536,100	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.						
SDS-910	\$1,790		\$53,000-\$83,000	.7KW	10	N	99
	-- 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	99
	-- Same as SDS-910.						
SDS-930	\$4,000		\$140,000	2.5KVA	24	N	99
	-- Symbolic assembler, FORTRAN II, Monarch Monitor Routine.						
SDS-9300	\$7,000		\$264,000	4KVA	24	N	99
	-- Symbolic Assembler, FORTRAN IV, Monarch Monitor Routine.						
SEMA 2000	\$700	\$550-\$1,150	\$22,500-\$46,500	115V	4	N	97
	-- 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		99+
	-- 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.						
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.						

Here's a complete EDP System. It's only \$3800 a month.

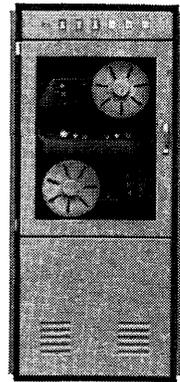
Now, any size business can afford electronic data processing. With the NCR 315 computer system it's only \$3800 a month. But the 315 isn't a stripped-down system. It's a complete data processing system that can grow as your needs grow. You can add up to 16 CRAM (Card Random Access Memory) files, up to two magnetic character sorters, up to three more magnetic tape files, and a punched card input-output unit. For full details, call your local NCR representative. Or write NCR, Dayton, Ohio 45409.



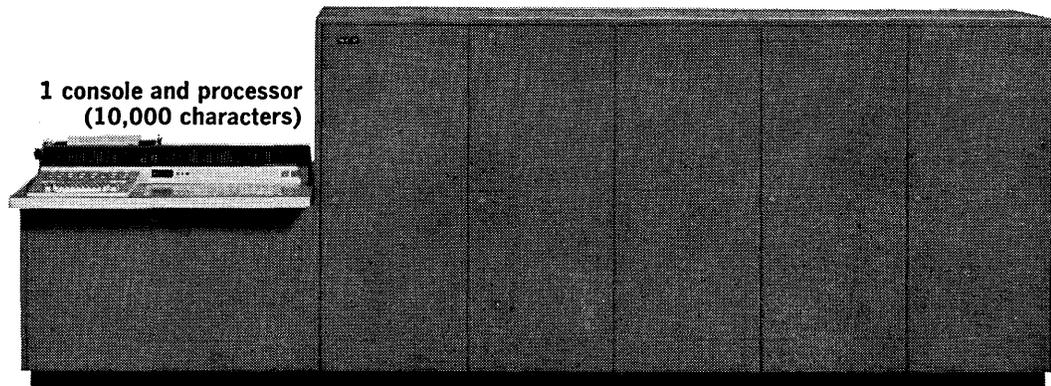
1 high-speed printer



5 magnetic tape handlers



1 paper tape reader



1 console and processor
(10,000 characters)

N

C

R

BE SURE TO VISIT THE NCR PAVILION AT THE NEW YORK WORLD'S FAIR.

THE NATIONAL CASH REGISTER COMPANY ®

Circle No. 18 on Readers Service Card

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"; "64" means "in 1964", 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

A 110 / scientific, real-time, algebraic resolution, simulation, optimization, on-line computation / ACCUR: 4 signif figures / CAPAC: approx 75 depending on problem / LARGST INSTLN: 40 multipliers, 50 integrators; number of units may be increased to meet requirements of problem; H.F. technique eliminates need for summing amplifiers / PRGMG CHANGEOVER: 30 to 90 min including checking / has auto check; operg ratio, 90% to 95% / sale, \$30,000 to \$600,000 / A 110 computer utilizes a high-frequency technique which gives unique possibilities for solution of algebraic problems / Societe pour l'etude et la realisation des procedes electroniques de calcul ANALAC, 101 bld Murat, Paris 16e, France / *C 63

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 auto 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 64

CI-170SS / scientific, real-time, not real-time / ACCUR: 4 signif figures / CAPAC: store 200 physical variables / LARGST INSTLN: 80 adders, 40 multipliers, 40 integrators, 20 servo set diode function generators 5 ea. four channel UNE's / autom prgm of new problem when problem changes / PRGMG CHANGEOVER: 3 sec per variable / IN-OUT: electric typewriter, keyboard, paper tape / RELIAB: auto check; operg ratio, 95% / sale, \$50,000 to \$500,000; or leased monthly / sold or rented, 2; on order, 5 / machine is an all solid state 100 volt analog which may be digitally controlled / Comcor, Inc., 430 S. Navajo, Denver, Col. / *C 63

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 auto check; operg ratio, 99% to 100% / sold or rented; prices available on specific request / Dian Laboratories, Inc., 611 Broadway, New York 10, N.Y. / *C 64

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, auto printer / RELIAB: has auto 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 auto check / sale, \$199.95 / Heath Co., Benton Harbor, Mich. / *C 64

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 auto check; operg ratio, 95% / sale, \$75,000 to \$650,000 / sold or rented, 19 / a completely integrated hybrid system taking full advantage of both analog and digital techniques / Electronic Associates, Inc., North Long Branch, N.J. / *C 64

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: 11,000 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 auto check; operg ratio, 95% / sale \$170,000 to \$1,000,000 / sold or rented, 4 / combines the accuracy of a GPC with the speed of a GPAC to best perform complex simulations / Electronic Associates, Inc., North Long Branch, N.J. / *C 64

Electronic Associates PACE 231R / scientific; real-time; slower than real-time or high speed repetitive operation / ACCUR: 4 signif figures / CAPAC: store 30 variables / LARGST INSTLN: 45 adders, 50 multipliers, 30 integrators / dividers, resolvers, function generators, limiters, comparators also avail / PRGMG CHANGEOVER: 10 min / IN-OUT: punched paper tape, keyboard, hand, typewriter, patch paper / RELIAB: has auto check; operg ratio, 95% / sale, \$20,000 to \$1,000,000 / rental, \$9,100 to \$50,000 / sold or rented or on order, 300 / a medium to large .01% general purpose analog computer / Electronic Associates, Inc., North Long Branch, N.J. / *C 64

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 auto 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: 3 signif figures / CAPAC: store 8 to 12 variables / LARGST INSTLN: 20 adders, 9 multipliers, 18 integrators, 4 arbitrary functions / dividers, function generators, coefficient pots, function storage, comparators also avail / PRGMG CHANGEOVER: 20 min / IN-OUT:

hand patch panel / RELIAB: has auto 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-48 / scientific; real-time or not real-time / ACCUR: 3 signif figures / CAPAC: store 8 to 12 variables / ADDERS: 12 / MULT: 9 / INTEGRATORS: 10 / ARBIT FUNCT: 9 / Other: resolvers and fixed function generators also avail / PRGMG: no auto changeover; 15 min. changeover time / IN-OUT: patch panel / RELIAB: has auto check; operg ratio, 90% / sale, \$8000 to \$35,000 / rental, \$400 to \$1750 / sold or rented, 12 / a solid state table top computer; equipped for iteration or sequential calculation; comes with mobile desk / Electronic Associates, Inc., North Long Branch, N.J. / *C 64

ES-Series Electronic Analog Computer / scientific, business, real-time, not real-time / ACCUR: 2 signif figures / CAPAC: none / LARGST INSTLN: up to 15 adders, up to 15 multipliers, up to 15 integrators / PRGMG CHANGEOVER: 15 min, depends upon problem / sale, \$520 to \$945 / Heath Co., Benton Harbor, Mich. / *C 63

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 auto 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

Procedny Systems Analyzer M 101-A / scientific, Fourier transform / ACCUR: computes Fourier transform for 30 harmonics, 2% / CAPAC: plot of one function / PRGMG: no autom prgm of new problem when problem changes; data placed in machine in form of curve in 1 to 2 min / IN-OUT: input on Vernistat plotting board, meter output or x-y plot / sale, \$5000 to \$7000 / sold or rented, one; on order, one / Procedny Associates, Inc., 376 Ridgeley St., Perth Amboy, N.J. / *C 63

REAC 500: Reeves Electronic Analog Computer / scientific, process simulation problems, real-time and other / ACCUR: 4 signif figures / LARGST INSTLN: 120 scale factor potentiometers, 20 integrators, 34 adders, 20 quarter square multipliers, 20 function generators / automatic in/out, repetitive operation, electronic resolver servo mult / PRGMG: autom prgm of new problem when problem changes; 5 min changeover / IN-OUT: elec typewriter, tape / RELIAB: auto check; operg ratio, 95% / sale, \$30,000 and up / Reeves Instrument Corp., Garden City, N.Y. / *C 63

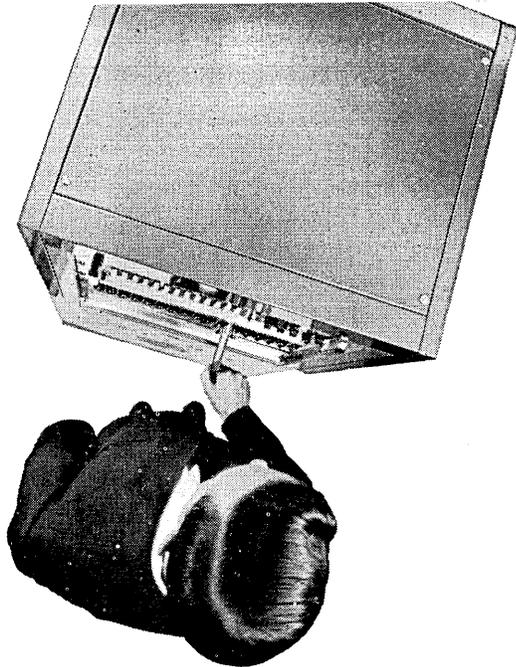
SD 20 Analog Computer / scientific, real-time / ACCUR: 4 signif figures / CAPAC: 40 pots / LARGST INSTLN: 8 adders, 6 multipliers, 8 integrators, full 20 amplifier capacity / PRGMG CHANGEOVER: 15 min. / IN-OUT: removable problem board / RELIAB: has auto check, 95% / sale, \$8000 to \$15,000 / on order, 4 / Systron-Donner Corp., 888 Galindo St., Concord, Calif. / *C 64

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 auto check, 95% / sale, \$15,000 to \$30,000 / on order, 3 / Systron-Donner Corp., 888 Galindo St., Concord, Calif. / *C 64

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: auto check, 95% / sale, \$20,000 to \$50,000 / on order, 2 / Systron-Donner Corp., 888 Galindo St., Concord, Calif. / *C 64

Solartron 247 System / scientific, real-time, repetitive and iterative / ACCUR: 5 signif figures / CAPAC: equal number of integrators / LARGST INSTLN: 408 adders, 300 multipliers, 272 integrators, 100 function generators / PRGMG CHANGEOVER: automatic, 30 min. / IN-OUT: digital voltmeter, line printer, punched tape for autom set and push button for manual set / RELIAB: has auto check, 95% / sale, \$28,000 to \$350,000 / sold, 18; on order, 2 / Solartron Electronic Group Ltd., Victoria Rd., Farnborough, Hampshire, Eng. / *C 64

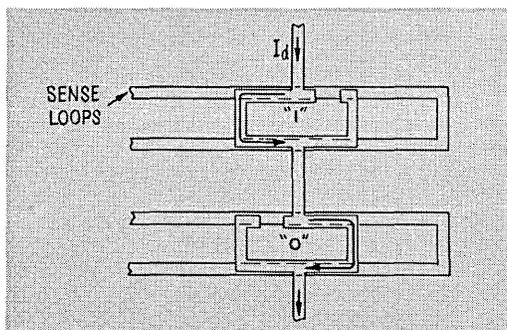
TDA-2 Electric Analog Computer Potential Plane Simulator (field plotter) 2 and 3 dimensional representation / scientific, engineering / ACCUR: within 1% / CAPAC: any number / solves Laplace or Poisson equation, will handle any number of variables put into model being analyzed / average time to solve typical problem, including programming and solution, 6 hrs / IN-OUT: physical model is made and solution obtained directly from the model / RELIAB: auto check; operg ratio, 100% / sale \$895 / Carlson Computer Co., 13911 Malvern St., Poway, Calif / *C 64



this man is plugging in 1,920 NDRO bits

He can plug in 64, 30-bit words of read-only data in seconds or change a whole 1024-word fixed-data storage routine in minutes.

We're talking about Fabri-Tek's PERMACARD memory system, the new concept of fixed or "read only" data storage. The PERMACARD system uses no ferrite cores, no magnetic slugs, no capacity elements, no diode matrix memories. It's a pure and simple induction system that has fixed constants and is free from chance of alteration due to faulty read-restore operations. It's insensitive to temperature, noise and transients.



Close-up of PERMACARD system bit storage.

Memory capacities are available to suit your requirements. Typical cycle time is 1 usec and access time is 0.5 usec. The PERMACARD system memory cards are economical plug-in printed word line arrays.

Natural applications for the PERMACARD system are: microcommand or microinstruction storage, fixed subroutine storage, control memories, bootstrap memories, look-up tables, command translations, and any combination of these. The speed and economy of the PERMACARD system coupled with its great flexibility suggests a broad variety of special uses—radar display storage for permanent targets, A to D conversion, fixed automation and materials handling instructions—these are only a few places where the PERMACARD system can be applied.

Find out more about this fresh approach to Non-Destructive-Readout, fixed data storage. Write, call or wire Robert E. Rife, Fabri-Tek, Incorporated, Amery, Wisconsin. Phone: CO 8-7155 (Area 715). TWX: 715-2920900.

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EXECUTIVE OFFICES: FOSHAY TOWER, MINNEAPOLIS 2, MINNESOTA

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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

1. 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)

2. Do you also supply general purpose computers and data processors? _____

3. 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., 292 Main St., Cambridge 42, Mass. / 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: yes / Ms(200) Se(1957) / *C 63

Aircraft Armaments, Inc., Cockeysville, Md. / SPEC PUR: Air Traffic Control Simulator, to develop and evaluate air traffic control procedures (price dependent upon requirements); Anti-Submarine Warfare Trainer, to train anti-submarine fire control crews (price dependent upon requirements); Radar

Target Simulator, to evaluate overall performance of airborne radar equipment (\$30,000 to \$40,000) / GEN PUR: none / Ls(1150) Me(1950) / *C 63

Allegany Instrument Co., Div. of Textron Electronics, Inc., 1091 Willis Mt., Cumberland, Md. / SPEC PUR: Type K ballistic computer, for measurement of rocket motor force and pressure parameters (\$15,000 to \$100,000); Autocal-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 / Ms(200) Se(1952) / *C 64

Bailey Meter Co., 29001 Euclid Ave., Wickliffe, Ohio 44092 / SPEC PUR: Bailey 756 system, for automation of power plants and industrial processes / GEN PUR: none / Ls(1500) Le(1916) / *C 64

Belock Instrument Corp., 112-03 14th Ave., College Point 56, N.Y. / SPEC PUR: Analog-Electromechanical Computing Servos, Transistorized Electronics, for generation of target coordinates in space for introduction into radar simulation systems (\$10,000 to \$60,000 depending on number of targets); for generation of launcher coordinates and auxiliary tactical information for shipboard missile launching systems (\$200,000); for computing gun orders for 105 mm and 155 mm howitzers for field artillery fire direction (\$25,000). Analog-Electromechanical Computing Servos, for multichannel conversion of rectangular coordinates and reverse (\$30,000); for generation of gun orders and fuse settings for automatic radar-tracking anti-aircraft and surface fire naval weapons, includes parallax conversion and ballistic conversion (\$100,000); for airborne bombing and navigation computer that permits solution of bombing problem while aircraft is engaged in evasive action (\$50,000 to \$100,000); for computing gun orders for fire control for army tank (\$35,000); for computing trajectory of incoming mortar round from a series of radar plots to determine position of weapon fired (\$20,000); for continuously computing ship's position from inputs of initial position, speed and heading (\$10,000); for computing most economical load distribution among generators in a given power station under given conditions (\$10,000) / GEN PUR: none / Ls(700) Me(1950) / *C 63

Burroughs Corp., P.O. Box 1307, Ann Arbor, Mich, or 7300 Huron River Dr., Dexter, Mich. / SPEC PUR: Complete line of digital display equipment and systems for command, control, scientific, teaching and inquiry purposes. Equipment includes symbol, line, vector and position generators, display controls, drum memory modules, keyboard and function switch units. Systems include general purpose, command and control, and tabular display consoles, display-recording (microfilm and hard copy) systems, and inquiry systems using remote display stations / Ms(74) Se(1955) / *C 63

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 (895) / GEN PUR: none / Ss(2) Se(1960) / *C 64

CG Electronics, Div. Gulton Industries, Inc., 15000 Central East, Albuquerque, N.M. / SPEC PUR: Digital Data Acquisition Systems (Ground), for wind tunnel, physiological low & high level analog (\$15,000 to \$100,000); Digital Data Acquisition Systems (Airborne), for missile, satellite, balloon aircraft (\$10,000 to \$100,000); Remote Control & Monitoring Telemetering Systems, for missile propellant loading, hazardous or pressurized areas (\$10,000 to \$800,000); Automatic Checkout & Monitor Systems, for component, assembly & system checkout and visual monitoring (\$15,000 to \$150,000); Data Translator Systems, for format to format conversion, magnetic tape, punched tape & card (\$30,000 to \$150,000); Airborne PCM Telemetry System, for missile, satellite, balloon aircraft, low & high level solid state (\$20,000 to \$200,000); Supervisory Control System, for gas, power, utility and industrial process controls (\$25,000 to \$500,000) / GEN PUR: yes / Ms(155) Se(1954) / *C 63

Coleman Electronic Systems, 3210 West Central Ave., Santa Ana, Calif. / SPEC PUR: Machine Tool Control Systems, for point to point machine tool positioning and position display (\$6000 to \$25,000); Automatic Data Sampling Systems, for multiple channel low speed data sampling with output and printed card and punched paper tape (\$2000 to \$20,000); Test Scoring Machines, for special computers automatic high speed scoring of test results; Automatic Vote Tallying Machines, for automatic election ballot counting (\$850,000) / GEN PUR: none / Ms(75) Me(1950) / *C 63

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 / Ls(1200) Se(1953) / *C 64

Connecticut Technical Corp., 3000 Main St., Hartford, Conn. / SPEC PUR: Typewriters - Transmitting & Output Printing, for tape punching, communications, programmable electric typewriters, computer application (\$950 to \$5000) / GEN PUR: none / Ss(20) Se(1960) / *C 64

Delco Radio, Div. of General Motors Corp., 700 East 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 / Ls(6000) Me(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 & Flight Simulator, for training of personnel; Process Analyzer, for automatic control of plants; Navigating System, for automatic tracking of missiles; (prices on request) / Ss(12) Se(1955) / *C 64

Digital Design Corp., Box 21, Clay, N.Y. / SPEC PUR: Digital Power Controller, to monitor & control power consumption in an industrial plant (\$5000); Multichannel Pulse Height Analyzer, to sort pulses by amplitude, make statistical computations on amplitude distribution (\$5000 to \$15,000) / design and building of computers, simulators, control systems to specific requirements / Ss(4) Se(1960) / *C 63

Digital Electronics Inc., 2200 Shames Dr., Westbury, N.Y. / SPEC PUR: Automatic decode for banking (\$9,950); slide analysis for use in metallurgy (\$40,000); training computer for use in education (\$15,000 to \$40,000) / GEN PUR: yes / Ss(40) Se(1961) / *C 64

Electronic Products Corp., 2315 Cecil Ave., Baltimore 18, Md. / SPEC PUR: Airborne Programmers, for sequencing time delays (\$1500 to \$5000); Simulators for training purposes (\$1000 to \$6000); ATALA-1 Automatic Temperature & Line Alarm System, for shipboard sensing, monitoring, and status reporting readout (approx. \$5000); 65E Programmers, for checkout, countdown, and launch sequencing (\$10,000 and up) / GEN PUR: none / Ms(60) Se(1959) / *C 63

Special Purpose Computers

Elliott Brothers (London) Ltd., Aircraft Direction Div., Elstree Way, Borehamwood, Hertfordshire, Eng. / SPEC PUR: Air Traffic Control, using digital general purpose computers, for data processing, data processing and output displays, and data processing output displays conflict predictions, flight clearance resolution (\$113,600 to \$142,000); Air Defense Systems, using digital general purpose computers, for fighter interceptions - voice and data link, missile allocation and control, or combination of both systems (\$255,600 plus); Simulators, using digital general purpose computers, for procedural and radar air traffic control, military and civil radar simulators, and simulation extensions of operational systems (\$113,600 plus; Ordered: 1 Air Traffic (Euclid) Control Simulator \$1,420,000; Delivered: 1 Radar Simulator \$1,420,000); Travel Reservations, using digital general purpose computers, for airline and rail seat reservations for use by distant booking agencies; Communications Switching Systems, for control of communications network and priority switching; Mobile Air Defense Systems, based on digital general purpose computers (high specification), for data processing for mobile defense radar systems (\$214,240 plus); Early Warning Analysis and Response Systems to military requirements (price according to specification) / GEN PUR: Elliott general purpose computers, on which all listed special purpose computers are based / Ls(20,000) Le(1800) / *C 63

Ferranti Electronics, a Div. of Ferranti-Packard Electric Limited, Data Systems Dept., 16 Industry St., Toronto 15, Ontario, Canada / SPEC PUR: Argus, for process control (\$150,000 to \$450,000); FP 6000, for check sorting (\$160,000 up); Gemini, for airline reservations (\$500,000 to \$1,500,000) / GEN PUR: FP 6000 (\$160,000 up); Orion (\$100,000 to \$2,000,000); Atlas (\$4,000,000 to \$10,000,000) / Design and manufacture of reservation and inventory control systems, inquiry and display systems, and large digital storage systems / Ms(360) Me(1949) / *C 63

Fischer and Porter Co., Warminster, Pa. / SPEC PUR: analog-to-digital recorder, records motion, elec. signals, or pulses versus time (\$500 to \$2000); ADR Telemeter, for remote control telemetering of above (\$1000 to \$2500); vehicle detector, for traffic count and signal control (\$350 to \$600); millisecond operations rec., for sequence operations (\$7500 to \$30,000); traffic operation punch, for traffic counting (\$600 to \$700) / GEN PUR: yes / Ls(1300) Me(1937) / *C 63

Fischer and Porter Co., Warminster, Pa. / SPEC PUR: digital data systems for logging, scanning, multiple pressure readout, digital computer control / GEN PUR: yes / Ls(1300) Me(1937) / *C 64

Ford Instrument Co., 31-10 Thomson Ave., Long Island City, N.Y. / SPEC PUR: airborne digital computer for navigation; airborne analog computer for navigation; airborne analog, for guidance and control; fire control computer, for launching orders (Terrier, Tartar, and gun control); ground computer, for drone control; reactor control computer, for reactor control drives and indicators / Ls(2000) Le(1915) / *C63

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 / Ms(350) Le(1860) / *C 64

ITT Federal Laboratories, 500 Washington Ave., Nutley 10, N.J. / SPEC PUR: ITT-525, digital, parallel, solid-state data processor, for high-speed, real-time communications, test, command and control \$500,000 to \$2,000,000; ITT-025, militarized digital parallel, solid-state, large capacity processor, for high-speed, real-time communications, test, command and control (\$1,000,000 to \$3,000,000); Auxiliary Data Recording System, all transistor, highly compact, airborne unit, receives data from aircraft sensors, encodes analog info into digital form, feeds data to recording head in airborne reconnaissance camera (price varies with specific system) / GEN PUR: none / Ls(6000) Le(1920, ITT Corp.) / *C 63

Kearfott Div., General Precision, Inc., Aerospace Group, Little Falls, N.J. / SPEC PUR: Analog, for airborne navigation (price varies) / GEN PUR: none / Ls(7700) Le(1917) / *C 63

Leeds and Northrup 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 (\$200,000 to \$300,000); 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 / Ls(3000) Le(1899) / *C 63

LPE 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-11A 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 / Ls(2000) Me(1946) / *C 64

The Magnavox Co., 2131 Bueter Rd., Ft. Wayne, Ind. / SPEC PUR: Information Retrieval Systems, for large-scale on line storage of digital & graphic data (\$13,000 and up rental per month); Fire Control Computers, FADAC class (price negotiated); Automatic Data Sampling Systems, military and naval systems (price negotiated) / GEN PUR: none / Ls(9300) Le(1911) / *C 63

Minneapolis-Honeywell Regulator Co., Industrial Products Group, Wayne and Windrim Aves., Philadelphia 44, Pa. / SPEC PUR: Nuclear reactor simulator for training in nuclear reactor operation (approx. \$17,000). Thermal plant simulator to solve nuclear design and operational problems; training device for nuclear power plant operation (approx. \$21,000). Wave analyzer for data reduction (\$17,000 and up). Gas flow computer for measuring gas flows and correcting to standard conditions (\$4000). Analog-digital recorder transcriber for automatic data sampling (\$30,000 and up). BTU meter for computing BTU formula gas measurements (\$1800 and up). Remote control telemetering systems for telemetering and supervisory control (\$500 and up). Fractionator reflex analog computer for calculating amount of internal reflux in distillation column (\$1600). Analog computer using B-constant principle for economic dispatch of power system generation (\$25,000 and up). Batch computers, analog type, systems blending liquids, solids, slurries. Special purpose analog computers for on-line control. Honeywell 290 and Honeywell 610 general purpose industrial digital control computers for on-line data acquisition and control / *C 63

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 / Ls(30,000) Le(1853) / *C 63

Pacific Data Systems, Inc., 1058 E. 1st St., Santa Ana, Calif. / SPEC PUR: Sequential Analyzer / quality control statistical calculator (\$1000) / GEN PUR: PDS 1068, control computer (\$10,000 to \$15,000); PDS 1020, engineering computer (\$18,000 to \$22,000) / Ls(20) Se(1961) / *C 63

Pacific Data Systems, Inc., 1058 E. 1st St., Santa Ana, Calif. / SPEC PUR: engineering computations

(PDS 1020) and systems computer (PDS 1068) for data logging, automatic checkout, and process control / GEN PUR: yes / Ss(30) Se(1962) / *C 64

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 \$99,500 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 / Ms(350) Se(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 such as all types of command and control applications including tactical center operations, aerial surveillance, air traffic regulations, weapons fire planning and support, and vehicle tracking and guidance, real-time data handling, processing and communication, administrative data processing, scientific data computation; C-3000 control computer, small scale, for use in process control systems; military computers for use in space vehicles, aircraft, and other military purposes, including simulation, automatic training devices, information retrieval, airport and flight control, traffic control, fire control, navigation, etc. / GEN PUR: yes / Ls(24,000) Le(1892, corporation; 1952, computer division) / *C 63

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 (\$2040 upwards); Solid State Sequence Control, for plant sequence control (\$2040 upwards) / GEN PUR: none / Ms(100) Se(1959) / *C 64

Stone Laboratories Inc., 1312 Tremont St., Boston 20, Mass. / SPEC PUR: Tellertron, savings bank real-time processing system (\$350,000, up) / GEN PUR: none / Ss(10) Se(1958) / *C 63

Wang Laboratories, Inc., 836 North St., Tewksbury, Mass. / SPEC PUR: ADMREP (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) / GEN PUR: none / Ms(55) Se(1951) / *C 64



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OVER 700 AREAS OF APPLICATION OF COMPUTERS

I. Business and Manufacturing in General

1. Office

Accounts receivable; posting, rebilling
 Advertising effectiveness: analysis, data handling
 Automatic drawing and updating of PERT charts
 Billing and invoicing
 Budgeting
 Capital investment analysis
 Catalog indexing
 Charitable contributions
 Correspondence: personalized letters to delinquent accounts
 Cost analysis
 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
 Payroll changes for general increases
 Payroll computation and payment
 Pension reporting and updating
 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
 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
 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
 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
 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
 Shop scheduling, optimum

II. Business — Specific Fields

1. Advertising

Analysis of consumer audiences
 Direct mail advertising addressing
 Expenditures: analysis
 Moneys: advertising, promotional, analysis

2. Banking

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

College board examinations: scoring, interpreting
 Compiling educational test results
 Compiling honor rolls
 Education: forecasting administration trends and budgeting
 Hospital menu planning
 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 classes, sections, courses, instructors, rooms
 Supply accounting
 Student records: interpretation and processing
 Teacher credential issuance
 Teaching
 Test grading
 Theoretical courses: presentation and review of basic concepts

4. Finance

Amortization
 Bond evaluation
 Dividend calculation
 Equipment trust accounting
 Fund analysis
 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
 Bond ownership and redemption records
 Budgetary control
 Census analysis
 Election return analysis
 Excise tax bill preparation
 Fingerprint processing and searching
 Foreign policy analysis
 Income tax accounting
 Mail sorting and routing
 Motor vehicles: registration
 Parts cataloging
 Property right-of-way analysis
 Property value analysis
 Public Health: radiation, water purification, air pollution studies
 Rubbish disposal planning, route analysis
 Sales tax records, analysis
 Simulation of sections of the economy
 Statistical analysis
 Supplies: inventory and control
 Traffic interchanges: designs of angles and grades
 Traffic light service control
 Traffic signal regulation
 Traffic simulation
 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
 Traffic violations: recording, accounting, analysis

8. Libraries

Information retrieval
 Records and control

9. Magazine Publishing

Classified advertisement preparation
 Mailing list maintenance
 Mailing lists: geographic analysis
 Mailing lists: high speed label printer
 Newspaper copy: automatic justification and hyphenation of
 Newsprint: telephone transmission, high-speed typesetting
 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

11. Oil Industry

Absorber calculations
 Aerial surveys and exploration: analyses
 Bulk stations: wholesale sales, billing, accounting

Application of Computers

- 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
 - Oil purchase accounting
 - Operating records: logging
 - 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
- Holler 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 probatation
 - 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
13. Sports
- Bridge tournaments: shuffling and dealing
 - Football: judging contest entries
 - Indoor golf: measurement of shots
 - Hacing: determination of prices paid on winning horses
 - Scoring: bowling, Olympic winter games
14. Steel Industry
- Billet cut-up line: control
 - Power control: optimization
 - Smelting process: blast furnace stock-house control
 - Steel mill simulation
 - Steel sample analysis
15. Telephone Industry
- Assign dial equipment
 - Automatic telephone exchange for private lines
 - Coin telephone: collecting, accounting
 - Customer payments
 - Local service charge billing
 - Long-distance transmission of data
 - Message register billing
 - Toll ticket billing
 - Update "yellow pages" directories
 - Written message telephoning
16. Textile Industry
- Fabric quality control
 - Material availability evaluation
 - Production planning
17. Transportation
- Air traffic control
 - Air traffic prediction plots
 - Aircraft maintenance scheduling
 - Airline fare computation
 - 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
 - Passenger airline space control
 - Pilot training
 - Position plotting of airplanes
 - Preventive maintenance scheduling
 - Railroad car identification and recording
 - Railroad freight cars: accounting, allocation, distribution, control
 - Railroad inventory accounting
 - Rail traffic control, centralized
 - Satellite orbit calculations
 - Ship arrival forecasting
 - Ship traffic: statistical analysis
 - Subways: automatic control
 - Terminal operation simulation
 - Trains: automatic control
 - Travel reservations
18. Miscellaneous
- Agriculture: crop shifting indications
 - 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
 - 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
 - Music: statistical analysis of style
 - 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
 - Atmospheric re-entry studies
 - Automatic checkout for missiles and space vehicle aircraft
 - 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
 - Inertial guidance for missiles and space vehicles
 - Navigation training devices
 - Parts catalog changes, processing
 - Precision calculation of spaceship positions
 - 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 movies
- Satellite tracking
- Self-adjusting pilot
- Simulate moon landings
- Space platform "anchorage"
- Static rocket engine checkout
- Suspension reaction for airborne stores
- Systems evaluation
- Theodolite data reduction
- 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
 - Myoglobin molecule: 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
 - 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 determination from sun observation
 - 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
 - Embankment stability design
 - Freeway assignment
 - Freezing and thawing of soils
 - Grade sheet processing
 - Highway profiles
 - Highways: determination of future needs
 - Monthly equipment summary
 - Pavement design
 - Photogrammetric data reduction
 - Pier design
 - Pile load computation
 - Pipe design
 - Pressure distribution in layered media
 - Ramp and interchange design and calculations
 - Rerouting traffic during emergency conditions
 - Retaining wall design
 - Roadway elevations
 - Route optimization
 - 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

Application of Computers

- Traverse adjustment
Traverse closure
Triangulation
Vertical alignment
Water distribution systems: analysis, optimization
5. Economics
- Household simulation
Industry: analysis, simulation of competition
6. Electrical Engineering
- Antenna design
Cathode tube design
Circuit analysis and design
Circuit assembly: control
Component design
Computer logic circuits: design by numerical control
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
- Boolean algebra calculations
Calculus of variations
Constants, important: evaluation
Convolution
Coordinate rotation and translation
Curve fitting
Determinant evaluation
- Difference equations solution
Differential equations solution
Differentiating symbolically
Eigenvalues and eigenvectors: calculations
Fourier analysis and synthesis
Function tables: computation
Integral equations
Integration
Integration of functions
Intelligence: simulation of human thinking processes
Lagrange interpolation
Least squares fit to inconsistent equations
Limited and pure differentiation
Matrix inversion
Matrix multiplication
Maximum likelihood functions
Multi-dimensional partial differentials
Multiple integrals
Numerical base conversion
Partial differential equations
Polynomial roots
Proportional gain
Simulation of mathematical equations and solutions
Simultaneous linear equations
Simultaneous non-linear equations
Simultaneous ordinary differential equations
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: horse power 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
Pipe-stress analysis
Orifice factors: computations
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
- Anesthesia control
Arterial physiology research
Ballistocardiogram analysis
Biologic rhythm studies
Biological specimens: electronic magnification
Blood volume: calculation of total amount in circulation and loss
Bone crystal structures: calculations
Cancer, diagnosis and treatment
Cardiovascular physiology studies
Cerebral slow waves: correlation and spectral analyses
Compartmental rate exchange parameters
Controlled artificial hand
Coronary artery disease prediction
Counting bacteria in photographs
Counting blood cells in photographs
Cytophotometric analysis
Diagnostic possibility listing
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
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
Medical data: telemetering and analysis
Medical tests: analysis
Metabolic control involving chemical feedback
Motor system coordination testing
Neuroelectric data processing
Neuron signal conduction theory
Pediatric psychiatric diagnosis
Physiology of the eye: analysis
Probability in medical diagnosis
Pulse analysis
Pupil servomechanism analysis
Radiation therapy
Red cell volume: calculation
Renal function simulation
Speech research
Statistical analysis of clinical data
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
14. Meteorology
- Cloud picture processing
Flood control
Global weather simulation
Hurricane control
Real-time assessment of Nimbus Satellite
Short-range storm observation and forecasting
Simulation of atmospheric turbulence and diffusion
Weather forecasting
Weather research: gridding of picture data
15. Military Engineering
- Ballistic trajectories
Bomb impact analysis
Bombing tables
City evacuation studies
Fire control
Firing tables
Missiles: designing, drafting structural parts
Missiles: launching, directing, intercepting, and recovery: calculations
Missiles: predicting impact points
Pursuit and combat: analysis, control
Radar defense systems: analysis, calculations
Rocket trajectories
Strategy analysis and optimization
Submarine battles: simulation, for crew training
Trajectory calculations
Weapons control
Weapons systems analysis and evaluation
16. Naval Engineering (see also Marine Engineering)
- Cavitation studies
Component attrition rate analysis
Decompression tables
Submerged flow: potential patterns
17. Nuclear Engineering
- Engines: tests, data control
Multigroup criticality calculations
Neutron diffraction
Neutron flux distribution
Neutron transport
Power plant monitoring
Radioactive fallout: analysis, prediction
Radioactive level calculations
Reactor design and evaluation
Reactor simulators
18. Photography
- Color analysis
Color separation negatives: scanner for automatic production
Lens coating calculations
Optical ray tracing
Optical system design
19. Physics
- Cosmic radiation: statistical analysis
Crystallography analysis
Electron distributions
Electron trajectories
Interatomic bond lengths and angles
Shock waves analysis
Thermodynamic equations

(Please turn to page 90)

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? / 2. Do you provide computing services commercially? / 3. Your equipment and facilities? / 4. Courses given in conjunction with your computing center? / 5. Any remarks? / 6. Number of your staff? / 7. 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:

Activities

- Ra Research and development
- Ca Commercial computing and consulting services
- Ga Government activity
- Pa Problem-solving
- Ea Education
- Ma Manufacturing activity

(Used also in combinations as in RCEA "re search; computing and consulting services; and educational activities")

Size

- Ls Large size, over 500 employees
- Ms Medium size, 50 to 500 employees
- Ss Small size, under 50 employees (no. in parentheses is approx. no. of employees)

When Established

- Lc Long established organization (1930 or earlier)
- Mc Organization established a "medium" time ago (1931 to 1950)
- Ss Organization established a short time ago (1951 or later) (no. in parentheses is year of establishment)

Interest in Computers

- Dc Digital computing machinery
- Ac Analog computing machinery
- Ic Incidental interests in computing machinery

*C Information checked by the organization (C for Checking) / 64: information furnished in 1964 / 63: information furnished in 1963 / 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.

Ahliano Christian College, IBM Center, Station ACC, Ahlone, Tex. / *C 63
Business office records; student and alumni records / IBM 402 and support equipment, 3 key punches, sorter, collator, summary punch; on order IBM 1401 data processing system / B.A. 326-Office Machines, with 6 of 18 weeks spent on IBM Unit Record Equipment / REA Ss(7) Se (1956) Ic

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 / GEa Ss(7) Se(Analog 1952, Digital 1961) DAC

The American University, Electronic Data Processing Laboratory, 1901 F. St., N.W., Washington 6, D.C. / *C 64
Use of computers as management tool, for budget preparation and execution; information storage and retrieval; student classroom work / two LCP-30's, Model 342 High Speed Reader Punch, two Flexwriters / Courses in data processing; systems; cybernetics; science, technology and government; mathematical-machine system; operations research and simulation; R&D management / PEa Ss(13) Se(1960) Dc

Arlington State College, Computer Laboratory, Arlington, Tex. / *C 64
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 / REa Ss(2) Se(1961) DAC

Auburn University, Computer Center, Auburn, Ala. / *C 61

Education and research / IBM 1620 with 60,000 positions of storage and high speed card I/O, IBM 407, 548, 519, 083, 026; coml svc / Electronic Data Processing Machines; Electronic Data Processing Systems; Digital Computer Programming; Numerical Analysis I and II; Computer Principles / 16K IBM 7040 and 4K 1401 on order for July 1964 delivery (with 8 mag. tape drives) / RCEA Ss(12) Se(1959) Dc

Stephen F. Austin State College, EDP Center, Nacogdoches, Tex. / *C 63
Teaching, administration, research in Forestry, Physics, Chemistry / IBM 1620, 1622 and two 1311's (on line printer to be ordered when announced), 407, 85, 83, 548, 514, 26, 24 / Business Administration courses leading toward systems design; Mathematic courses / REA Ss(3) Se(1963) Dc

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 / REA Ss(5) Se(1963) Dc

Boston College, Chestnut Hill, Mass. 02167 / *C 64
Education and research, developing computer mathematics for high school modern math programs / IBM 1620, 40K memory, indirect address, auto divide, card I/O; coml svc / Computer programming for high school students, high school math teachers, undergraduate college students / RCEA Ss(3) Se(1962) Dc

Boston University Computing Center, 700 Commonwealth Ave., Boston 15, Mass. / *C 64
Service center for university / 60K Card 1620 and auxiliary equipment; coml svc / 6 courses in Machine Programming; 4 courses in Data Processing Systems and Applications; 1 course in Scientific Computing and Mathematical Methods / CEa Ss(11) Se(1954) Dc

Bowling Green State University, Computer Center, Bowling Green, Ohio / *C 64
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 / RCEA Ss(6) Se(1953) Dc

Bradley University, Peoria, Ill. / *C 63
Undergraduate education / IBM 1620, 40K punch card; coml svc / Computer Design; Data Processing; Computer Technology / CEa Ss(3) Se (1963) Dc

Brandeis University, Brandeis Computer Center, Sydemann 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 / REA Ss(1) Se(1963) Dc

Braunschweig Technische Hochschule, Rechenzentrum und Institut für Rechenstechnik, Pockelstrasse 4, Braunschweig, Germany / *C 63
Programming techniques for education; automatic programming and compiling techniques; simulation of analog computing methods by digital computers; combined systems; function generation and recording for analog computers by magnetic tape; dynamic programming / Electrologica XI digital computer with 16,000 words core storage; Shorts general purpose analog computer (2 consoles), 2 PACE Variplotter; BIVAR bivariable function generator; four-channel pen recorder; magnetic tape equipment. ZUSE Z 22 digital computer, Ferranti input (200 char/sec) and Creed output (25 char/sec) for punched tape; IBM 047 and 163 tape-to-card punch and card-to-tape punch / PEa ?s ?e DAC

Brigham Young University, Computer Research Center, C-73 ASB, Provo, Utah / *C 64
Education, research, and administrative data processing / IBM 7040 - all special features except double precision floating point; IBM 650 - floating point, index registers, 4K memory; coml svc / Computer programming courses in departments of mathematics, accounting, engineering, industrial education / RCEa Ss(31) Se(1958) Dc

Bristol College of Science and Technology, Ashley Down, Bristol 7, England / *C 63
Education / Elliott 803 digital computer, Solartron Minispace analog computers, calculating machines, relay demonstration computer; coml svc / courses given / CDE ?s Se(1962) DAC

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 / REa Ss(10) Se(1961) Dc

Brown University, Computing Laboratory, 180 George St., Providence 12, R.I. / *C 64

Education, research / IBM 7070/1401 system; coml svc / Introduction to Computation and Programming; Digital Computer Programming; Theory of Advanced Programming; Numerical Analysis; Topics in Advanced Computer Science; other computer oriented courses / RCEa Ss(7) Se(1956) Dc

Cambridge University, Mathematical Laboratory, Corn Exchange St., Cambridge, England / *C 64
Computing service for University, research into and teaching of computer science / Titan (ICL Atlas 2 computer) coml svc / Diploma in Numerical Analysis and Automatic Computing / Edsac 2 in use now; will go out of service end of 1964 / RCEa Ms(50) Me(1939) Dc

Carleton College, Northfield, Minn. 55057 / *C 64
Undergraduate education and research / IBM 1620 card system with supporting punched card equipment / Utilization of Automatic Computers; Numerical Analysis; Programming Lectures / REa Ss(1) Se(1962) Dc

Carnegie Institute of Technology, Computation Center, Pittsburgh 13, Pa. / *C 64
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) / Elementary Programming; Advanced Programming; Numerical Analysis; etc. / RCEa Ms(56) Se (1956) Dc

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. / CEa Ss(20) Se(1957) Dc

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 / RCEa Ss(3) Se(1961) Dc

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 / REa Ss(5) Se(1963) Dc

Central Technical Institute, 1644 Wyandotte St., Kansas City, Mo. / *C 64
Training in data processing and computer programming; some computer services provided commercially / Bendix G-15; coml svc / Business Automation and Computer Programming / CEa Ss(3) Se(1962) Dc

Chalmers University of Technology, ADB Institutet (Scandinavian Automatic Data Processing Institute), Gilbraltargatan 5 S, Gothenburg 5, 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 / CPEa Ss(25) Se(1957) Dc

Chico State College, Chico, Calif. / *C 64
Education / IBM 1620 Model I, 1622, 1311, 407, 082, 026 (2) / Basic and Advanced Programming; Numerical Methods; Linear Programming / Ea Ss(2) ?e Dc

Christian Brothers College, Computer Center, 650 E Parkway S., Memphis, Tenn. 38104 / *C 64
Undergraduate education in computing for engineering and science students / 1620 Model II with 40K memory card system, 407 Printer, Sorter, Key punches; coml svc / Numerical Methods and Programming; Algebraic Compilers / Non-credit evening courses also given / CEa Ss(3) Se (1962) Dc

Claremont Men's College, Claremont, Calif. / *C 63
Education / IBM 1620, 1622, 026 / Numerical Analysis; Operations Research / REa Ss(2) Se(1962) Ic

Clarkson College of Technology, Computer Center, Potsdam, N.Y. / *C 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 / REa Ss(4) Se (1961) DAC

Clemson College Computing Center, Clemson, S.C. / *C 63
Teaching and research / R/C 4000 Computer with R/C 4600 Tape-pewriter system, R/C 4410 Photoreader, also Systematics K-177 for card compatibility; coml svc / Computer Programming; Numerical Methods; other courses in Mathematics and Engineering making use of the computer / RCEa Ss(2) Se(1961) Ic

Cornell University Computing Center, Rand Hall, Ithaca, N.Y. / *C 63
Research computation and teaching / Burroughs 220, Control Data 1604-160A, IBM 101 statistical machine, misc. sorting and comparing machines; coml svc / Computer Equipment & Industrial Applications; Digital Computer Programming; Numerical Analysis / RCEa Ss(15) full

School, College, and University Computer Centers

- time, 15 part time) Se(1953) Dlc
 Dartmouth College, Computation Center, Hanover, N.H. / *C 64
 Research and education / GE 235; Datatrac 30, 4 magn. tape stations, high speed printer, card reader, punch, random access disk storage unit; sixteen Model 35 Teletypewriters; IBM 1620; LGP-30, two off-line Flexowriters; Numerical Analysis; Business Data Processing; programming (non-credit) / REA Ss(4) Se(1959) Dc
- Detroit Inst. of Technology, Computer Center, 2300 Park Ave., Detroit, Mich. / *C 64
 Instruction, commercial application, faculty research, administrative research / 20K 1620, 407 Tab and other unit record equipment / Computer Systems (1620 Fortran); Numerical Analysis / REA Ss(4) Se(1964) Dc
- Drury College, Springfield, Mo. 65802 / *C 64
 Education (undergraduate) / LGP-30; coml svc / Numerical Analysis for science students; Digital Computer Techniques for non-science students / CEa Ss(1) Se(1960) Dc
- Duke University, Durham, N.C. 27706 / *C 64
 Research and instruction / IBM 7072 and 1401 / Computer oriented courses in mathematics, engineering, economics, psychology / REA Ss(8) Se(1958) Dc
- Duquesne University, Pittsburgh, Pa. 15219 / *C 64
 Instruction and research / IBM 1620 card / Non-credit Fortran / REA Ss(5) Se(1963) Dc
- École Polytechnique, 2500 Ave. Marie-Guyard, Montreal, Que., Can. / *C 64
 Computer laboratory serving Engineering School / C150, alpha-numeric, two magn. tapes, graph plotter, off-line Flexowriter / three courses in Basic Programming (Scientific); Basic Data Processing; Numerical Analysis / Ea Ss(4) ?e Dc
- El Camino College, El Camino, Calif. 90506 / *C 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 / Ea Ss(3) Se(1959) Dc
- Everett Junior College, 801 Wetmore, Everett, Wash. / *C 64
 Education in computer programming and administrative work / IBM 1620, two 1311 disks, 407, 519, 548, 083, four 024's, 026, 056 / Data Processing Lab; Key Punch; various night courses / Ea Ss(3) Se(1963) Dc
- Fairleigh Dickinson University, Computer Laboratory Center, Rutherford, N.J. / *C 64
 Services for education, research and administration, all colleges, 3 campuses of the university / IBM 1620, IBM basic unit record equipment, IBM 1230 optical mark scoring reader and punch; coml svc / Business Systems & Procedure; Integrated DP; Electronic DS; Computer Programming; Computer Technology; graduate courses - Electronics for Management; Management Systems / RCEa Ss(8) Se(1959) Dc
- Fenn College, Euclid & E. 24th, Cleveland 15, Ohio / *C 63
 Undergraduate education in Data Processing and Computers / Burroughs 205 / Data Processing; Computer Technology / Ea Ss(2) Se(1960) Ic
- Florida State University, Computing Center, Tallahassee, Fla. / *C 64
 Support of University research and instructional programs / IBM 709, 9 tapes, 32K; IBM 1401, 4 tapes, 8K; auxiliary equipment / Fortran Programming; SPS Programming; Numerical Analysis; Educational DP; Business DP; other computer oriented courses / REA Ss(40) Se(1957) Dc
- Foothill College, 12345 El Monte, Los Altos Hills, Calif. / *C 64
 Data processing instruction, college administrative functions, test scoring, etc. / IBM punched card equipment including 407 A/M; 1620 with doubled speed card I/O and 1443 printer on-line; coml svc / Introduction to DP; Electro-mechanical Equipment; Introduction to Programming; Business Programming; Administrative Systems and Procedures; Scientific Programming; Scientific Applications / CEa Ss(9) Se(1958) Dc
- Fordham University, New York 58, N.Y. / *C 64
 Perform computations arising in connection with research, primarily in physics / CDC G-15 plus Flexowriter / Numerical Analysis / REA ?s Se(1960) Dc
- The Franklin Institute, Computing Center, 20th & Parkway, Philadelphia 3, Pa. / *C 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 / RCEa Ss(30) Se(1957) Dc
- Fresno State College, Computer Center, Maple & Shaw, Fresno, Calif. 93726 / *C 64
 Education, administration / 1620 with 1311 disk & tab periph. equip.; member Western Data Process System 7094 / Engineering and business courses; Fortran Primary Language / Ea Ss(2) Se(1964) Dc
- Fullerton Jr. College, 321 E. Chapman Ave., Fullerton, Calif. / *C 64
 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; Machines Writing; Programming; Systems; DP Math / Ea Ss(3) Se(1961) Dc
- Gannon College, Perry Square, Erie, Pa. / *C 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 / Ea Ss(3) Se(1963) Dc
- General Motors Institute, Computer Services Dept., 1700 W. Third Ave., Flint, Mich. / *C 64
 Train and encourage students to use digital computer as tool in engineering / 1620 40K card with indirect addressing, automatic divide; 407 Acctg. 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 coursework in several engineering courses / Ea Ss(7) Se(1961) Dc
- George Washington University, Computer Center, Washington, D.C. 20006 / *C 64
 Education and research / 60K IBM 1620, 407 sorter, two key punches / Courses in departments of engineering, business, and statistics / REA Ss(5) Se(1963) Dc
- Georgetown University, Computation Center, 37th and O Sts., N.W. Washington D.C. 20007 / *C 64
 Provide computational support for research, education and training in electronic digital computer technology / IBM 1620, 60K, 407 acctg. machine, 083 sorter, two keypunches; all card I/O / Formal and informal courses on digital computers and computer programming / Disk, plotter and paper tape input on order, course on nomography planned for next year / REA Ss(4) Se(1963) Dc
- Georgia Institute of Technology, Rich Electronic Computer Center, 225 North Ave., N.W., Atlanta, Ga. 30332 / *C 64
 Education and research / Burroughs 220, 5K, 6 magn. tapes; Burroughs B5000, 32K, 64 word drum, 12 magn. tapes; coml svc / Over 90 courses on computers and their applications / RCEa Ms (50-72) Se(1955) Dc
- Georgia State College, Computing and Data Processing Center, 33 Gilmer St., S.E., Atlanta, Ga. 30303 / *C 64
 Faculty research and teaching, student research, administrative data processing / 1620 Model II, 60K, card reader-punch, two 1311 disk packs, 1443 printer; coml svc / Introduction to Computer Programming; Quantitative Methods; Accounting Control Systems; Data Processing for Accountants / Other courses, masters degree in computer science planned for Fall 1964 / RCEa Ss(8) Se(1959) Dc
- Glendale College, 1500 N. Verdugo Rd., Glendale, Calif. 91208 / *C 64
 Education / IBM 1620 and IBM punched card equipment available through Glendale Unified School District during school term / Introduction to Business DP; Computer Programming / Additional courses being planned; two-year curriculum being developed / Ea Ss(3) Se(1961) Dc
- Harvard Computing Center, 33 Oxford St., Cambridge, Mass. / *C 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 / REA Ss(46) Se(1962) Dc
- Harvey Mudd College, Dept. of Engineering, Claremont, Calif. / *C 63
 Engineering education / 1620 card system, document writer, sorter, and Donner 3400 analog computer / used in regular instructional program / Ea Ss(7) Se(1955) DAic
- Hofstra University, Computer Center, Hempstead, L.I., N.Y. / *C 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 / Ea Ss(4) Se(1963) Dc
- Howard Payne College, Brownwood, Texas / *C 64
 Acquaint the college student with digital computer programming and use of computers / LGP-30; coml svc / Two courses in programming / CEa Ss(2) Se(1960) Dc
- Howard University, 2400 6th St., N.W., Washington, D.C. / *C 63
 Service unit for University, processing student A/R and deposits; registration, grade reports, W 2's, etc. / IBM 1620, 407, 514, 82, 85, 26, 24, 56, 557 / Survey course covering Data Processing; Digital Computer Programming; Computer Seminars / RPEa Ss(7 in DP, 2 in Computer Lab) Se(1961) Dlc
- Humphreys College, Stockton, Calif. / *C 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 / Ea ?e ?e Dc
- Idaho State University, Data Processing Center, Pocatello, Idaho / *C 64
 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 / Punch card installation, IBM 1620 / Introduction to EDP; Computer Programming / Hope to expand course offerings 1964-65 / REA Ss(5) Se(1961) Dc
- Illinois Institute of Technology, Chicago, Ill. 60616 / *C 64
 Education - graduate and undergraduate / IBM 1620, IBM 407, eleven IBM 026's, IBM 1401/7010 to be installed Sept. 1964 / Programming Computer Languages, Systems Analysis and Simulation / Extensive involvement with secondary schools in Chicago area / Ea Ss(29) Se(1961) Dc
- Indiana Institute of Technology, 1600 E. Washington Blvd., Fort Wayne, Ind. / *C 64
 Education and research / IBM 1620 with 1622 card I/O, IBM 403 acctg. machine, 082 sorter, 548 interpreter, 024 and 026 card punches; coml svc / Computer Programming; Numerical Analysis / RCEa Ss(7) ?e Dc
- Indiana University, Research Computing Center, Gymnasium Addition, Bloomington, Ind. / *C 64
 Research and education / IBM 709, 32K, 10 tape drives; IBM 1401, 8K, 4 tape drives; usual unit record equipment / Non-credit programming and coding courses; Theory and Application of Digital Computers / RPEa Ss(21) Se(1954) Dc
- Institut für Angewandte Mathematik der Universität Würzburg, Würzburg, Klinikstrasse 6, Germany / *C 63
 Solving problems in research and in courses of various depts. / Programming and technical courses every term / RPEa Ss(5) Se(1961) Ic
- Iowa State University, Computation Center, Ames, Iowa / *C 64
 Provide service to all departments, education and research / IBM 7074-1401 magn. tape system, Cyclone computer system, two IBM 1401's, SDS 910; coml svc / 22 computer oriented credit courses / Starting graduate program in computer science, Fall 1964 / RCEa Ms(75) Se(1962) Dc
- The Johns Hopkins University, Computer Center, Baltimore 18, Md. / *C 63
 Education, research and development / IBM 7094, 1410, 1301, four 1401's / Numerical Methods for Computers; informal programming courses / RPEa Ms(90) Se(1957) Dlc
- Kansas State College of Pittsburg, Computer Center, Pittsburg, Kansas / *C 64
 To provide computing facilities for education, research, and local industries / IBM 1620, IBM 1622, IBM 1443, 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 / RCEa Ss(3) Se(1963) Dc
- Kansas State Teachers College, Emporia, Kansas / *C 64
 Education, teacher training and business data processing, institutional administrative data processing, academic research / 1620 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 / REA ?s Se(1962) Dc
- Kansas State University, Computing Center, Manhattan, Kansas 66504 / *C 64
 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 / REA Ss(8) Se(1958) Dc
- Kent State University, Computer Center, Kent, Ohio / *C 64
 Education and research / IBM 1620 card I/O, 40K, usual peripheral equipment / Two 5-hour courses in computer science / REA Ss(4) Se(1963) Dc
- King's College, Computing Center, Wilkes-Barre, Pa. 18702 / *C 64
 Education / IBM 1620, tab equipment; coml svc / BS in Bus. Ad. with concentration in data processing / CEa Ss(2) Se(1960) Dc
- Lafayette College, Easton, Pa. / *C 64
 Education / IBM 1620, tape reader and punch, 20K, 1620 Flexowriter / - / Fortran programming offered as part of freshman engineering course / Ea Ss(1) ?e Dc
- Lamar State College of Technology, Research Center, Port Arthur Rd., Beaumont, Texas / *C 64
 Student instruction in using and programming digital computers; faculty research / Burroughs 204, LGP-30; coml svc / Various engineering and math courses given in conjunction with, or integrated with computer center / RCEa ?s Se(1962) Dc
- Lehigh University, Computing Laboratory, Bethlehem, Pa. / *C 64
 Education, research / GE 225, magn. tape, printer, AAU/LGP-30 / Computer Programming; seven engineering depts. have introductory computation courses; non-credit training courses / REA Ss(12) Se(1957) Dc
- Louisiana Polytechnic Institute, Computing Center, P.O. Box 776, Tech Sta., Ruston, La. / *C 64
 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, 083, 082, four 026's, 056; coml svc / 15 courses relating applications and methodology, using computer facilities / RCEa Ss(5) Se(1961) Dc
- Louisiana State University, Computer Research Center, Baton Rouge, La. / *C 64
 Education and research / IBM 7040, 1401, 1620; coml svc / Electronic Data Processing; Applications of Computers to Engineering Problems / RPEa Ss(10) Se(1959) Dc
- Loyola University, Computer Center, New Orleans, La. 70118 / *C 64
 Education and research / IBM 1620, 1622, 1623, 407, 085, 082, 514, 548, 026, 056 / Course in

School, College, and University Computer Centers

- programming mathematical problems for digital computer / RPEa Ss(5) Se(1963) Dc
- Lund University, Dept. of Numerical Analysis, Sölvagatan 14, Lund, Sweden / *C 63
Research and education in numerical analysis and programming; computing service for other universities / SMIIL computer with 4096 word core memory, 4096 word buffer core storage, 1 tape station of FACIT cartridge type, ALGOL 60 compiler; coml svc / graduate and post-graduate courses in numerical analysis and programming / RCEa Ss(13) Se(1956) Dlc
- Mankato State College, Computer Center, Mankato, Minn. / *C 64
Education / IBM 024, 083, 548, 519, 402, 085, 1620, 1622, 026, 026-21, 082, 005 test scoring machine / Digital Computer Programming; Numerical Analysis; Integrated Data Processing; Filing and Records Management / PEa Ss(3) Se(1963) Dc
- Marquette University, 1515 W. Wisconsin Ave., Milwaukee 3, Wisc. / *C 64
Research and education / IBM 1620; two IBM 729's, 40K storage; IBM 070; Gerber Scientific Instr. GDDRS-3B-2 digital data reader / Electrical, Civil, Mechanical Engineering, Mathematics, and Business Administration with application to computers / REa Ss(5) Se(1958) Dc
- McGill University, Computing Center, 805 Sherbrooke St. W., Montreal, Canada / *C 64
University scientific computing / IBM 7040 32K / Courses given / REa Ss(10) Se(1959) Dc
- Memphis State University, Computer Center, Box 619, Memphis, Tenn. / *C 64
Instruction and research / IBM 1620, 60K, card I/O, 407, other assorted unit record equipment; coml svc / Digital Computing; EDP and Programming / RCEa Ss(4) Se(1963) Dc
- Miami-Dade Junior College, 11380 N.W. 27 Ave., Miami, Fla. / *C 64
Education / IBM 1620, 1621, 1622, 1623 (extra 20K), 1624, two 1311's, 1443, 082, 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, for school business, shared with county school system / Ea Ss(8) Se(1960) Dc
- Miami University, Computing Center, Oxford, Ohio 45056 / *C 64
Research, education / IBM 1620 / Computer Programming; EDP; degree program in systems analysis / REa Ss(14) Se(1959) Dc
- 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 / RCEa Ss(11) Se(1958) Dlc
- Midwest Research Institute, 425 Volker Blvd., Kansas City 10, Mo. / *C 64
Studies in application of digital and analog computers to business and scientific problems; mathematical analysis and computation; economic research; operations research; systems engineering; simulation / IBM 1620, 1311, 1443, Donner 3500, GEDA N3 and L3 / RCPa Ms(300) Mc(1944) Dlc
- Missouri School of Mines and Metallurgy, Computer Science Center, Rolla, Mo. / *C 64
Education and research / IBM 1620 Models I and II, 60K, with two disk storage drives, reader, punch, automatic floating point; Model I indirect addressing, automatic divide; LGP-30, photoelectric paper tape reader, high speed paper tape punch, tape typewriter; additional DP equipment adjacent to computers; coml svc / 16 computer oriented courses given / Offer B.S. and M.S. degrees which emphasize computer science / RCEa Ss(12) Se(1960) Dc
- Monterey Peninsula College, 980 Fremont, Monterey, Calif. / *C 64
Education / IBM 1620, 407, 085, 083, 557, 519, 026, 024; coml. machine rental / Numerical Analysis; Business DP / Ea Ss(10) Se(1959) Dc
- New Mexico Highlands University, Computer Center, Las Vegas, N.M. / *C 63
Research in health and mental adjustment / IBM 1620 40K storage, 407E4, two 026's, sorter, reproducer; coml svc / Computer Programming / RCPa Ss(7) Se(1962) Dlc
- Newark College of Engineering, Computing Center, 323 High St., Newark, N.J. 07102 / *C 64
Education and research / IBM 1620 60K, three IBM 026's, 082, 407, 519, PACE TR10; coml svc / Special orientation course in programming and use of 1620; Numerical Analysis and Programming of Digital Computers / RCEa Ss(10) Se(1961) Dc
- 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 / RPEa Ss(20) Se(1953) Dc
- Norges Tekniske Høgskole, Institutt for Anvendt Matematikk, Trondheim, Norway / *C 63
Education and service to industry, commerce, etc. / GIER; coml svc / ALGOL; other programming languages; general applications / CEa Ss(5) Se(1963) Dc
- North Dakota State University, Data Processing Laboratory, Fargo, N.D. / *C 64
Provide valuable teaching tool for students, supplement staff members and graduate students doing research / 1620, 40K memory, card I/O; coml svc / Fortran, Machine Language - SPS, Digital-Analog Circuitry / RCEa Ss(5) Se(1961) Dc
- 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 / Ea Ss(3) Se(1960) Dc
- North Texas State University, Computer Center, Denton, Tex. / *C 63
Research and instruction / IBM card 1620, 402, two 026's, 082, 077, 514 / Technical Programming; Numerical Analysis; Business Programming; Systems Analysis; EAM / RPEa Ss(6) Se(1963) Dc
- Northeastern University Computation Center, Boston, Mass. / *C 63
Education and Research / IBM 1620 (60K) and usual auxiliary equipment / courses given / REa Ss(4) Se(1959) Dlc
- Northwestern University, Computing Center, Evanston, Ill. / *C 64
Provide facilities for faculty and student research and education / As of Oct. 1964: IBM 7094, 32K, ten tapes; two 1401's; auxiliary equipment / Introduction to Computer Coding; Digital Computer Programming and Error Analysis; Digital Computer Solution of Differential and Integral Equations; Digital Computer Solution of Algebraic Problems / RPEa Ss(18) Se(1957) Dc
- Nova Scotia Technical College, Halifax, Canada / *C 64
Education and research / LGP 30, Donner 3200 / Advanced Numerical Analysis / REa Ss(3) Se(1961) Dlc
- Ohio University, Athens, Ohio / *C 64
Education, research / IBM 1620, 20K, 1311 disk file, card I/O, 407 printer; LGP-30 / One programming course / REa Ss(12) Se(1957) Dc
- Oklahoma State University, Computing Center, Stillwater, Okla. / *C 64
Service to research staff, graduate student research, controller and business office / IBM 1410 system; coml svc (ltd. to staff participation) / Programming / RCEa Ss(10) Se(1956) Dc
- 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 TCPC and Selectadata / Introduction to Data Processing; Data Processing Machines (IBM tab); Systems and Procedures; computer programming courses / PEa Ss(11) Se(1958) Dc
- Oregon State University, Statistics Computing Laboratory, Corvallis, Ore. / *C 64
Education, research, administrative processing / IBM 1620, 40K memory, card I/O; IBM 1410, 40K memory, card and magn. tape; 1013 teleprocessor / Data Processing; Advanced Data Processing; Computer Applications Seminar / REa Ss(8) Se(1958) Dc
- Parsons College, Fairfield, Iowa / *C 64
Handle academic and financial accounting, provide education to students in computer programming and systems design / IBM 1401, two disk storage drives (to be installed June 1964); punched card installation, 407 acctg. machine / Basic Computing Systems; Advanced Systems Design / Ea Ss(6) Se(1960) Dc
- Pennsylvania State University, Computer Facilities, Electrical Engineering Dept., University Park, Pa. / *C 64
Teaching and research in digital and analog computers / Pennstat Digital Computer, Analog Computers, Network Analyzer / Logical Design of Digital Computers (2 courses), Analog (2 courses) / RPEa Ss(6) Se(1952) Dlc
- Polytechnic Institute of Brooklyn, Computer Center, 333 Jay St., Brooklyn, N.Y. 11201 / *C 64
Educational and computing facility for students, staff, and research projects / IBM 7040, with full options and channel B, IBM 1401-C3, IBM 1402, IBM 1403, eight 729-V tape drives, four 26 key-punches, 47 tape to card punch, 82 sorter, 407 printer, 519 reproducer, 548 interpreter; coml svc / Courses in Fortran IV and specialized computer techniques / RCEa Ss(11) Se(1960) Dc
- Pomona College, Claremont, Calif. / *C 63
Education / 2 G-15D and MIA-2 / Numerical Analysis (one semester); Applied Math (one semester); use computers in courses of physics and math but do not give courses in computer technology / Ea Ss(2) Se(1957) Dlc
- 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 / RCEa Ss(2) Se(1961) Dc
- 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 / RCEa Ss(10) Se(1962) Dc
- Randolph-Macon College, Computer Center, Ashland, Va. 23005 / *C 64
Faculty research, undergraduate instruction and research / IBM 1620, card I/O, 20K, special instructions; sorter, collator, key punches, 407 acctg. machine / Fortran; Introduction to Digital Computation / Other courses make primary use of Computer Center, e.g., Numerical Analysis, Differential Equations, Physics, etc. / REa Ss(3) Se(1963) Dc
- Research Institute of National Defense, Stockholm 80, Sweden / *C 63
Research / IBM 7090, IBM 1401 / Ra Ss(30) Se(1960) Ic
- Rice University, Houston, Texas 77035 / *C 64
Research in computer logic, circuits, and programming / Computer constructed by Project Staff / Computer oriented courses in engineering, philosophy, and math depts. / Ra Ss(10) Se(1957) Dc
- Riverside City College, 3650 Fairfax, Riverside, Calif. / *C 64
Education / IBM 1620, 1622 r/p unit, 402 acctg. machine, 085 collator, 514 reproducer, 082 sorter, 026 and 026 keypunch, 056 verifier, 1311 disk files (Models 2 and 3), 1940 serial printer / Introduction to Data Processing; Electro-mechanical Machines; Practical Problems in DP; Computer Programming; Data Systems; special program for training deaf students in keypunch / Complete program for Associate of Arts degree / Ea Ss(7) Se(1963) Dc
- 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) / RCEa Ss(10) Se(1960) Dlc
- Rutgers University, Center for Information Processing, New Brunswick, N.J. / *C 64
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 / RCEa Ss(14) Se(1958) Dc
- Ryerson Polytechnical Institute, 50 Gould St., Toronto, Ont., Can. / *C 64
Familiarization of data processing and computer programming for students in Business and Technology / IBM 1620 / Courses in computer programming and DP for business and industry; also night school courses in same / Courses to be revised and enlarged after 1964 / Ea Ss(3) Se(1963) Dc
- St. Cloud State College, St. Cloud, Minn. / *C 63
Registration, basic research for the college / IBM; summary punch, 080 sorter, 402 accounting machine / Office Automation / Ra Ss(2) Se(1957) Ic
- St. Louis University, Yalem Computer Center, 3690 W. Pine, St. Louis, Mo. / *C 64
Scientific research and instruction / IBM 1620, card and paper tape I/O, 60K memory; coml svc / Fortran II / RCEa Ss(4) Se(1961) Dc
- St. Mary's University, Computer Center, San Antonio, Texas 78228 / *C 64
Education and research / IBM 1620, card punch I/O, IBM 082 sorter, IBM 026 key punch; coml svc (limited) / Introduction to Computers and Programming; Fortran / RCEa Ss(4) Se(1962) Dc
- St. Olaf College, Northfield, Minn. / *C 64
Undergraduate education / IBM 1620 available to students through Carleton College / Programming; Numerical Analysis / Ea Ss(5) Se(1959) Dlc
- San Fernando Valley State College, Campus Computer Center, 18111 Nordhoff St., Northridge, Calif. 91326 / *C 64
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 now in use; LGP-30; negotiating for medium scale computer system / Introductory and advanced courses in computer sciences; non-credit workshops / RPEa Ss(12) Se(1959) Dc
- San Francisco State College, Computer Center, 1600 Holloway Ave., San Francisco 27, Calif. / *C 64
Student and faculty research, instruction in computer applications to subject areas, programming / IBM 1620 card system / Courses given / REa Ss(7) Se(1961) Dc
- San Joaquin Delta College, 3301 Kensington Way, Stockton, Calif. / *C 64
Instruction in DP systems / 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 / Ea Ss(5) Se(1961) Dc
- 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 / CEa Ss(3) Se(1961) Dc

School, College, and University Computer Centers

- Seattle University, Computer Center, Seattle, Wash. 90122 / *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, 003, 005, 557; coml svc / Basic Computer Programming; Principles of Digital Computer Programming / RCEA Ss(5) Se(1963) Dc
- Seton Hall University, Computer Center, S. Orange, N.J. / *C 64
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 / REA Ss(8) Se(1963) Dc
- Shippensburg State College, Shippensburg, Pa. / *C 64
Education / 1620, unit record equipment; coml svc / DP Introduction; Programming I and II; Numerical Analysis / CEa Ss(5) Se(1962) Dc
- 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 / Ea Ss(5) Se(1963) Dc
- South Dakota State University, Brookings, S.D. / *C 64
Education and research / 1620 with 40K, 407 acctg. machine, 005 collator, 002 sorter, 026 keypunches; coml svc / Fortran and Cobol / RCEA Ss(2) Se(1961) Dc
- Southeast Missouri State College, Cape Girardeau, Mo. 63701 / *C 64
Undergraduate education and faculty research, data processing / IBM 1620, card I/O / Computer Programming / REa Ss(2) Se(1962) Dc
- Southern Illinois University, Data Processing and Computing Center, Carbondale, Ill. / *C 64
Administration, research and education; planning total information system / IBM 40K card 1620, 0K card 1401, 0K 6-tape 1401, 0K 3-tape 1401, IBM 7040 on order Dec. 1964 / 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 / REa Ms(65) Se(1958) Dc
- Southern Methodist University, Computing Laboratory, Dallas 5, Tex. / *C 64
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 / REa Ss(12) Se(1957)
- Southern University, Baton Rouge, La. / *C 64
Education / IBM 1620, tabulating equipment / Theory and Use of Computing Machines; Introduction to DP; Numerical Analysis; Mathematical Statistics; Automation and Computers / Ea Ss(1) Se(1962) Dc
- Stanford University, Computation Center, Stanford, Calif. / *C 63
Education and research / Burroughs 220; IBM 7090; 1401, auxiliary equipment; PDP-1; Burroughs B 5000 / Numerical Analysis; Programming at various levels; List Processing; Artificial Intelligence; Mathematical Theory of Computation / RPEa Ms(approx. 50, incl. 6 part time) Se(1953) Dc
- State University of Iowa, Computer Center, Iowa City, Ia. / *C 63
Education and research / IBM 7070-1401 / 10 to 12 courses / REa Ss(7 full time, 14 half-time) Se(5) Dlc
- State University of New York Maritime College, Ft. Schuyler, Bronx, N.Y. 10465 / *C 64
Education and research / LGP-30 with extra Flexwriter / Computer oriented courses in mathematics / REa ?s Se(1961) Dc
- Stevens Institute of Technology, Computer Center, Hoboken, N.J. / *C 64
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 / Numerical Analysis; Programming; Digital Techniques Laboratories / RCEA Ss(6) Se(1961) Dc
- Temple University, Broad St. & Montgomery Ave., Philadelphia 22, Pa. / *C 63
Education, research, administrative / 16K IBM 1401, 4 Model 7330 Tape Units, Ramac Unit / 4 one-semester courses: Basic 1401 Programming; Advanced 1401 Programming; Computer Training; 1401 Autocoder / REa Ss(2) Se(1959) Dlc
- Tennessee Polytechnic Institute, Computer Center, Box 21A TPI, Cookeville, Tenn. / *C 64
Computer education, research / Two IBM 1620's, one with disk pack, 1710 control system; coml svc / Principles of Digital Computers; Digital Computer Laboratory / RCEA Ss(2) Se(1960) Dc
- Texas A & M University, Data Processing Center, College Station, Tex. / *C 64
Education and research / Two IBM 1401's, 709, 650, unit record equipment; coml svc / 14 courses on computers and their application / MS offered in computer science / RCEa Ms(63) Se(1958) Dc
- Texas College of Arts and Industries, Computing Center, Kingsville, Texas / *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 / RCEa Ss(3) Se(1961) Dc
- Texas Technological College, Computer Center, Lubbock, Tex. / *C 64
Provide computer facilities for student and faculty use for education and research purposes / IBM 1620 Model I, 60K memory, 1622 card reader; IBM 1620 Model II, 40K memory, 1622 card reader; IBM 407; 514; 002; six 024's; Bendix G-15; two CRC-102-A's; CRC-105; Litton 20140; TR-48; coml svc / Computer Programming Techniques and Engineering Seminars / RCEa Ss(8) Se(1962) Dlc
- Trinity University, 715 Stadium Dr., San Antonio, Tex. 78212 / *C 64
Education and research / LGP-30, IBM 650; coml svc / Computer oriented mathematics and engineering courses / RCEA Ss(3) Se(1960) Dc
- Tufts University, Computation Center, Anderson Hall, Medford, Mass. 02155 / *C 64
Computing facilities for instruction and research / IBM 1620, 16K memory; coml svc / Fortran, SPS and Numerical Methods / RCEa Ss(6) Se(1962) Dc
- 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 / REa Ss(5) Se(1961) Dc
- United States Military Academy, Academic Computer Center, West Point, N.Y. / *C 64
Education, research, and administration / GE-225, AAU, 6-tape, HSP, etc.; two GE-225's and one Datatnet-30 on order / Computer use required in every basic course in mathematics, science, engineering / REa Ss(10) Se(1960) Dc
- United States Naval Postgraduate School, Computer Facility, Monterey, Calif. / *C 64
Training naval officer personnel in programming techniques and computer applications / CDC 160, CDC 1604, IBM 1401 / Over 20 different courses / Ea Ss(17) Se(1954) Dc
- University of Akron, Computer Center, 302 E. Buchtel Ave., Akron, Ohio 44304 / *C 64
Instruction, research, administrative systems development, operating and contract work / 60K IBM 1620 magn. tape system, Burroughs 205 magn. tape system; tabulating installation including 407's, 514's, sorters, collator, etc. / Digital Computer Programming / REa Ss(9) Se(1961) Dc
- University of Alabama, Computer Center, Box 2511, University, Ala. / *C 64
Instruction, research, service to administration / Univac SS80, three tape transports / Courses in numerical analysis, DP, engineering uses / REa Ss(3) Se(1961) Dc
- University of Alaska, Computer Center, College, Alaska / *C 63
Instruction and research / IBM 1620 (20K memory, 20 more on order) / Mathematics / REa Ss(4) Se(1961) Dlc
- University of Alberta, Dept. of Computing Science, Edmonton, Alberta, Can. / *C 64
Education and research / IBM 7040, 32K, all special features, 1401 on channel A for I/O, six magn. tapes (729V), 1414 - one synchronizer, usual peripheral equipment / Computer Programming; Numerical Analysis; graduate courses in Advanced Numerical Analysis; Theory of Digital Computers / RPEa Ss(20) Se(1957) Dc
- University of Arizona, Numerical Analysis Laboratory, Tucson 25, Arizona / *C 64
Research and instruction / 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 / RCEA Ss(26) Se(1957) Dc
- University of Arkansas, Computing Center, Fayetteville, Ark. / *C 64
Education and research / IBM 650; coml svc / Digital Computer Programming / RCEa Ss(12) Se(1960) Dc
- Universität Berlin, Recheninstitut der Technischen, Hardenbergstrasse 34, 1. Berlin 12, Germany / *C 64
Problem solving in applied mathematics, teaching / ZUSE 222R and ZUSE 223; coml svc / Introduction to Programming; Programming Theory; Numerical Analysis; instruction on ZUSE 222R and 223 / CPEa Ss(8) Se(1957) Dc
- 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 / REa Ms(76) Se(1957) Dlc
- University of California, Graduate School of Business Administration, Western Data Processing Center, Los Angeles 24, Calif. / *C 64
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 / REa Ss(40) Se(1956) Dc
- University of California, Riverside, Calif. / *C 64
Research and teaching / IBM 1620, 40K, card I/O, IBM 407, 026, 082 / Computer Methodology; University Extension Programming / REa Ss(4) Se(1963) Dc
- University of California, San Diego, Computer Center, La Jolla, Calif. 92038 / *C 64
Education and basic research / CDC 1604, 32760 word memory; CDC 160A, 14 magn. tapes; CDC 1612 printer; IBM 088, 523 and peripheral units; IBM 1401, two magn. tapes; IBM 7702 data link with Western Data Processing Center at UCLA / Courses in computer programming and numerical analysis / List processing; symbolic debugging at source language level; format free input and output; Bomms System / RPEa Ss(26) Se(1960) Dc
- University of California, UCLA Computing Facility, 405 Hilgard Ave., Los Angeles, Calif. 90024 / *C 64
Service center for campus, studies in computer languages, special research / IBM 7094, nine 729-IV tape units, on-line printer, 32K; IBM 1401, two 729-IV tape units, 1402 r/p, 1403 printer, 201-A data set; SWAC 256-word electrostatic (Williams-type) memory, 8192-word drum storage, card reader, card punch, 17" display CRT, Moseley Autograph X-Y plotter, direct analog to digital input, direct high-speed reciprocal digital transmission with IBM 1401; direct data connection to 7094; key punches, 407, 519, 083, 557 / Courses in numerical analysis, programming, coding; Interdisciplinary Colloquium in Computer Sciences / UCLA Computing Facility is an outgrowth of the computing center which has been maintained on campus since 1954 by the Numerical Analysis Research project / REa Ss(26) Se(1961) Dlc
- 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 / CEa Ss(4) Se(1963) Dc
- University of Chicago, Institute for Computer Research, 5640 South Ellis Ave., Chicago 37, Ill. / *C 63
Computer discipline, including logical structure and numerical analysis / Maniac III / Courses in computer discipline, applied mathematics / REa Ss(27) Se(1960) Dlc
- University of Cincinnati, Computing Center, Cincinnati 31, Ohio / *C 63
Education and research / 1620 with 40K core, 1311 Disk on order / Fortran Programming, Digital System Design, Programming for Digital Computers, Digital and Analog Computers / REa Ss(5) Se(1958) Dlc
- University College of South Wales and Monmouthshire, Cathays Park, Cardiff, Wales / *C 63
Scientific calculations, in particular X-ray Crystallography / STANTEC ZEBRA computing system; coml svc / Undergraduate teaching; Program courses for research staff and students / RCEA Ss(1) Se(1962) Ic
- University of Connecticut, University Computer Center, Storrs, Conn. / *C 64
Provide research and educational computer facilities and assistance to the University / IBM 7040, six magnetic tape drives; IBM 1620, 40K, card I/O, off-line printing, punching, sorting; PACE 231-R, 80 amplifiers, non-linear equipment / Non-credit staff workshops; six depts. teach programming and use Center's facilities; computer theory and design courses in Electrical Engineering Dept. / Center operates with open-shop programming; 1620 operated open-shop / REa Ss(8) Se(1961) Dlc
- University of Denver, Computing Center, Denver 10, Colo. / *C 64
Support of scientific research projects of Denver Research Institute / Burroughs 205, magn. tapes, Cardatron; installing B5000 late in 1964 / Courses limited, not leading to degree in computing science / REa Ss(10) Se(1958) Dc
- University of Florida, Computing Center, Gainesville, Fla. / *C 64
University research support and class problems / IBM 709/1401; coml svc / High Speed Computation; Digital Computer Principles; Control System Theory; Principles of EDP; Operations Research and Industrial Systems Design; Numerical Analysis; 27 other computer oriented courses / RCEA Ss(15) Se(1952) Dc
- University of Georgia, Computing Center, Athens, Ga. / *C 64
Computing support for academic research and teaching; offers degrees in Computer Science and Statistics / IBM 7094-1; IBM 1401, 16K, 4 tapes; IBM 1620; coml svc / Statistical courses; Computer Science; Computer Programming / RCEa Ss(10) Se(1959) Dc
- University of Glasgow, Computing Laboratory, Glasgow, W.2., Scotland / *C 64
Teaching and research in numerical analysis and computation / English Electric KDF 9, line printer, four tape units, five 8-channel paper-tape reader-punches; coml svc / Numerical Analysis; Programming Algol; undergraduate and post-graduate courses / RCEa Ss(21) Se(1957) Dc
- University of Hawaii, Statistical and Computing Center, Honolulu 14, Hawaii / *C 63
Service center for university, research projects / IBM 650, 2K drum; 1401, 0K, 4 tape;

School, College, and University Computer Centers

- 7040, 32K, 8 tape / Numerical Analysis; Numerical Meteorology; SOAP; FORTRAN; Autocoder / REA Ss(8 full time, 8 part time) Se(1960) Dlc
 University of Illinois, Digital Computer Laboratory, Urbana, Ill. / *C 64
 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 / RPEa Ms(197) Me(1949) Dc
- University of Kansas, Computation Center, 112 Sumnerfield Hall, Lawrence, Kan. / *C 63
 Academic research, education / IBM 1620, 60K ACP, four 7330 magnetic tape units, off-line printer, reproducer punch, sorter / Programming for a Digital Computer / REA Ss(4) Se(1957) Dlc
- University of Kentucky, Lexington, Ky. / *C 63
 Aid in educational, research and administrative activities / IBM 1410 (with 1402, 1403, five 7330 tape units, 40K memory, priority and overlap); IBM 1620 (fast read-punch 1622 unit, 60K memory, automatic floating point); two IBM 407's, two 026's, 514, 087, 552, 7 keypunches and 2 verifiers; IBM 7040-1401 system on order / Automatic Data Processing; Fundamentals of Programming; Data Processing for Business; Cases in Management; Design of Digital Computer; Numerical Analysis / RCEa Ss(20) Se(1958) Dlc
- University of Liverpool, Computer Laboratory, Liverpool 3, England / *C 64
 Education and research / English Electric KDF9; coml svc / Numerical Analysis (undergraduate and M.Sc. courses); Electronic Computation (M.Sc. course) / RCEa Ss(14) Se(1960) Dc
- University of London Computer Unit, 44 Gordon Square, London, W.C. 1, England / *C 63
 Computing facilities for research / Ferranti Mercury Computer; Ferranti Atlas being installed 1963-64; coml svc / Programming courses; extended courses (3 terms) on numerical analysis, computers and programming; various symposia and external lectures / RCEa Ss(40) Se(1958) Ic
- University of Maine, Computing Center, Orono, Me. / *C 64
 Research and education / IBM 1620, 40K, card-oriented; coml svc / Programming courses in math., civil engr., chemical engr., business and economics depts. / RCEa Ss(2) Se(1961) Dc
- 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 / RCEa Ss(40) Me(1949) Dc
- University of Manitoba, Computer Committee, Winnipeg 19, Manitoba, Can. / *C 64
 Education and Computations for research in all University faculties / Bendix G15-D; IBM 1620, 40K memory tape, card I/O / Fortran Programming for 1620; Intercom Programming for G15-D / Available to all staff and post grad. students and certain undergrad. students / REA Ss(1) Se(1958) Dc
- University of Maryland, Computer Science Center, College Park, Md. / *C 64
 High-speed computing service and programming assistance to University research activities; promote educational and research programs in computer sciences / IBM 7090/1401, two IBM 1620's, CDC 160 / Informal programming courses; computer oriented courses / Center hopes to offer introductory and some advanced courses in computer science Fall, 1964, expand list of computer oriented courses, establish formal degrees in computer science / RPEa Ss(38) Se(1962) Dc
- University of Massachusetts, Research Computing Center, Amherst, Mass. / *C 64
 Education and research / IBM 1620, 407, 514, 03, 77, six 026's; on order for 1965 delivery IBM 7040 with 1401 / Computer Science; Graduate Reading Exam Course / REA Ss(10) Se(1960) Dc
- The University of Michigan, Institute of Science and Technology, Box 618, Ann Arbor, Mich. / *C 63
 Research and computing services / large scale analog computer, over 300 amplifiers; IBM 7090 with peripheral equipment; LGP-30; coml svc / Various digital computer courses / RPEa Ss(26) Me(1946) Dac
- University of Minnesota, Data Processing Center, Minneapolis, Minn. 55455 / *C 64
 Student records, general ledger, and sub ledgers, and payrolls / IBM 1410, 40K, five 7330 tape handlers; unit record equipment, 407, 188, 015, 557, 519, etc. / No courses given / Three other centers on campus: Numerical Analysis Lab, School of Business Administration, St. Paul Campus / Pa Ss(29) Te Dc
- University of Mississippi, Computer Center, University, Miss. / *C 63
 Teaching and research / IBM 1620 with 60K memory, unit record equipment; coml svc / Numerical Analysis; Programming for Digital Computers / RCEa Ss(7) Se(1959) Dc
- University of Missouri, Computer Research Center, Columbia, Mo. / *C 64
 Computer facilities for University research and educational programs / IBM 1620 Model I, 60K, 500/250 card I/O, 1311 disk drive; IBM 1620 Model II, 40K, 500/250 card I/O, 1311 disk drive; coml svc / Fundamentals of Digital-Computer Programming; Numerical Analysis; Advanced Numerical Analysis / RCEa Ss(15) Se(1960) Dc
- University of Nebraska, Lincoln, Nebr. 68508 / *C 64
 Research and education / IBM 1410, IBM 1620; coml svc / Informal Fortran and Cobol courses / RCEa Ss(4) Se(1950) Dc
- University of Nevada, Data Processing Center, Reno, Nev. / *C 64
 Provide data processing services for the University in areas of research, business and education / IBM 1620 system; coml svc / Computer programming courses, basic and advanced; key punching, machine courses and users seminars / RCEa Ss(8) Se(1959) Dc
- University of New Mexico, Albuquerque, N.M. / *C 64
 Provide educational computer facilities, programming, logical design, business data processing, and in-house computing / IBM 1620 Model II, 40K, card; IBM 1401 disc, 8K, tape; CRC-102A, tape; MANIAC 1; coml svc / Programming, Scientific and Business; Logical Design; two-year certificate course in Data Processing / CEa Ss(12) Se(1959) Dac
- University of New South Wales, P.O. Box 1, Kensington, N.S.W., Australia / *C 63
 Teaching and research activities within University / English Electric DEUCE Mark I, card input-output, delay line store 402 words, magnetic drum 8192 words; coml svc / Programming courses for undergraduates in Engineering & Mathematics, special programming courses for University staff and graduates / RCEa Ss(13) Se(1956) Dc
- University of Newcastle upon Tyne, Computing Laboratory, 1/3, Kensington Terrace, Newcastle upon Tyne, 2, England / *C 64
 Teaching and research / English Electric KDF.9; coml svc / M.Sc. and Diploma in Numerical Computing for Ph.D.; Analysis and Automatic Research; Diploma in DP in Bus. Adm. / RCEa Ss(18) Se(1957) Ic
- University of North Carolina, Computation Center, Chapel Hill, N.C. / *C 64
 Research and education / UNIVAC 1105, 8K core, 32K drum, 17 magn. tape units, paper tape I/O; UPTIME 2000 CPM card reader, on-line plotter, off-line HSP / Theory and Practice of Programming; Introductory Programming; Numerical Analysis; short-courses in programming / Graduate program under new dept. for computer sciences to begin functioning Fall 1964 / REA Ms(75) Se(1959) Dc
- 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 / CEa Ss(6) Se(1963) Dc
- University of Oklahoma, Norman, Okla. / *C 63
 Education / IBM 1620 (card); IBM 1410 (Disk, 40K, 4 tapes); OSAGE (Version of Rice University Computer); coml svc / Short computer courses; Business Stat. 102 / CEa Ss(20) Se(1957) Dc
- University of Oregon, Statistical Laboratory and Computing Center, Eugene, Ore. / *C 64
 University research and education / IBM 1620, 1622, 1623, 026, 002, 1013 / Computing; Seminar in Computing; Numerical Analysis; Elementary Business Computing / REA Ss(9) Se(1961) Dc
- University of Pittsburgh, Pittsburgh 13, Pa. / *C 64
 Education and research / 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; coml svc / 15 to 20 computer oriented courses / RCEa Ss(31) Se(1956) Dc
- University of Portland, Computer Center, 5000 N. Willamette Blvd., Portland, Oregon / *C 63
 Undergraduate instruction and research / Burroughs 205, installed and maintained in an A.D.S. Center / Introduction to Computer Programming; Advanced Computer Programming / REA Ss(2) Se(1961) Dlc
- 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 / RPEa Ss(8) Se(1958) Dc
- University of Puget Sound, Data Processing Center, 1500 N. Warner, Tacoma 6, Wash. / *C 63
 Administration / IBM unit record / limited courses / Ec Ss(3) Se(1955) Ic
- 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 / RCEa Ss(4) Se(1959) Dc
- University of Rochester, Computing Center, 31 Taylor Hall, River Campus Sta., Rochester, N.Y. 14627 / *C 64
 Service, research, and teaching / IBM 7074, 1401, 1620 / Elements of Computer Science; Programming Languages; Introduction to DP; others / REA Ss(18) Se(1956) Dc
- University of St. Thomas, 3812 Montrose Blvd., Houston, Tex. 77006 / *C 64
 To provide special educational facilities to science students who need a computer / Bendix G15D, card attachment (CA1: CDC) on-line; IBM 026 key punch; off-line Flexowriter; coml svc / Algebra for Computation; Digital Computer Programming; Numerical Analysis; Differential Equations; Statistics / CEa Ss(2) Se(1962) Dc
- University of South Carolina, Computer Center, Columbia, S.C. / *C 63
 Research and education / IBM 1620, 60K memory, 1622, 407; LGP 30 with photoreader; coml svc / Introduction to Numerical Analysis; Computer Programming; Logical Design of Digital Computers / RCEa Ss(2 part time) Se(1961) Dc
- University of South Dakota, Computer Center, Vermillion, S. D. / *C 64
 Education and administrative applications / IBM 1620, 40K, card I/O, indirect addressing, automatic divide, additional instructions, 1311 disk on order / Basic Computer Programming Concepts and the IBM 1620 / Main emphasis on Fortran / Ea Ss(1) Se(1963) Dc
- University of Southern California, 1020 W. Jefferson Blvd., Los Angeles, Calif. / *C 64
 Education and research for faculty and graduate students / Honeywell-800, Honeywell-400, standard card preparation equipment / Beginning and Advanced Algebraic Compiler; Introduction to Scientific Computing and Computer Programming for Scientific Problems; Introduction to Business Programming; Introduction to Digital Computers; short courses on Fortran and Cobol / RPEa Ss(8) Se(1962) Dc
- 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 / RCEa Ss(6) Se(1962) Dc
- University of Southwestern Louisiana, Computing Center, Lafayette, La. / *C 63
 Computing techniques and research / IBM 1620, with 1622 card reader-punch; peripheral equipment; coml svc / Introduction to Digital Computers; Digital Computer Programming; Advanced Digital Computer Programming / RCEa Ss(3) Se(1961) Dc
- University of Tennessee, Computing Center, Knoxville, Tenn. / *C 64
 Computation in scientific and engineering research and education / IBM 1620, 60K, cards, machine floating point, 407, off-line; IBM 1401, 8K, four tapes (7330), disk pac / Six computer oriented courses; short courses for faculty and graduate students / Expect IBM 1620 Model II June 1, 1964; IBM 7040 in March, 1965 / REA Ss(15) Se(1961) Dc
- The University of Texas, Computation Center, Austin 12, Tex. / *C 63
 Research, computing service for university / Control Data 1604, Control Data 160 and IBM 1401 / Courses in Computer Programming; Numerical Analysis; Computer Methods in Research; Seminar on Information Programming; Integrated Data Processing; 12 courses in all / RPEa Ss(35) Se(1958) Dc
- University of Toledo, Computation Center, Toledo 6, Ohio / *C 64
 Education and research / IBM 1620, 20K, card I/O, 1311 disk file, 407, four 026's; coml svc / Computer oriented graduate and undergraduate courses / RCEa Ss(5) Se(1962) Dc
- University of Uppsala, Computer Group, Thunbergsvägen 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 / REa Ss(4) Se(1961) Dlc
- University of Utah, Computer Center, Rm. 2038, M.E.B., Salt Lake City 12, Utah / *C 64
 Research; education; commercial consulting and applications / IBM 1401, 8K, four tapes; IBM 7040, completely tape oriented; IBM 1620, 60K; teleprocessing with IBM 7090; coml svc / Computer Concepts (basic, intermediate and advanced); Fortran; Cobol; Map; Algol; computer oriented mathematics, engineering and business courses / Advanced degrees in computer science to be offered / RCEa Ss(15) Se(1958) Dc
- University of Vermont, Burlington, Vt. / *C 64
 Research and education / IBM 1620 card system, 40K, keypunches; 870 system, sorter; coml svc / Computer Programming; Numerical Analysis / RCEa Ss(2) Se(1961) Dc
- University of Virginia, Computer Science Center, Charlottesville, Va. 22903 / *C 64
 University computer facility / Burroughs B5000; coml svc / Many computer oriented courses / RCEa Ss(10) Se(1960) Dc
- University of Washington, Computer Center, Seattle, Wash. 98105 / *C 64
 Education and research / IBM 650; IBM 709; IBM 1401; coml svc / Programming; Numerical Analysis; Business Statistics / RCEa Ss(35) Se(1956) Dc
- University of Waterloo, Computing Centre, Waterloo, Ontario, Canada / *C 64
 Research and education / IBM 1620, 60K memory, additional instructions, floating point arith.,

School, College, and University Computer Centers

auto. div., two 1311 disk storage drives, 1443 on-line printer, 407 printer, twelve keypunches; IBM 1710, 40K memory, 1311 disk storage drive; IBM 7040, 16K memory, all special features, six 729V tape drives, on-line 8K 1401, 1402 card read/punch, 1403 printer / Undergraduate courses in Numerical Analysis, Computer Programming; three graduate courses / REA Ss(12) Se(1960) Dc

University of Western Ontario, London, Can. / *C 64 Education / IBM 7040, five tapes, 16K core / B.Sc. in Computer Science; M.A. in Math. and Computer Science / Ea Ss(20) Se(1959) Dc

University of Wyoming, Box 3275, Univ. Sta., Laramie, Wyo. / *C 64 Teaching and research / Bendix G-15D, two magn. tapes on-line; IBM 1620; Friden Flexowriter; IBM 026, 402, 002 / Electronic Data Processing; Digital Computer Programming; Numerical Analysis / REa Ss(5) Se(1959) Dc

Utah State University, Computer Center, Logan, Utah / *C 64 Teaching and research / 1620, ten 026's, two 024's, two 056's, 082, 085, 514, 407 / Six courses given in conjunction with Computing Center / REa Ss(15) Se(1961) Dc

Valparaiso University, Research Advisory and Data Processing Office, Valparaiso, Ind. / *C 64 Cancer Chemotherapy Research / IBM 1620, 20K, 1622 I/O, two 026's, 082, 407, 085, 557; coml svc / - / RCa Ss(6) Se(1960) Dc

Vanderbilt University, Nashville 5, Tenn. / *C 63 Research and education / IBM 7072, 1401, 650, and assorted punched card equipment; coml svc / Informal Seminars / RCEa Ss(8) Se(1959) Dc

Villanova University, Computing Center, RED Division, 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 / RCE Ss(2) Se(1962) Dc

Virginia Polytechnic Institute, Computing Center, Blacksburg, Va. 24061 / *C 64 Education and research / 60K IBM 1620, 20K IBM 1620, four-tape IBM 1401 and related unit record equipment; IBM 7040/1401 system to be delivered Nov. 1964; coml svc / Fortran, and other programming courses all user oriented / RCEa Ss(5) Se(1958) Dc

Virginia State College, Data Processing Center, Petersburg, Va. / *C 63 Administration / Punch card equipment, 024, 026, 082, 005, 407, 514, 552 / Accounting Machine Operations (Basic Punch Card Equipment Training); Basic Wiring Principles / PEa Ss(4) Se(1958) Ic

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 / REa Ss(2) Se(1960) Dc

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 / REa Ss(24) Se(1957) Dc

Wayne State University, Computing and Data Processing Center, Detroit, Mich. 40202 / *C 64 Education, research, administrative data processing / 10K IBM 7070, eleven 729-IV's, 1301, two 1401's / Courses in Fortran, computer science, Cobol, data processing / REa Ms(75) Se(1952) Dc

Western Michigan University, Computer Center, Kalamazoo, Mich. / *C 64 Provide research, training, and service facilities for faculty, staff, and students / IBM 1620, 1622, 1623, three 026's, 082, 077, 514, 552, 407; coml svc (very little) / Fortran Workshop; Introduction to Computers; Programming for Computers; Numerical Analysis; Integrated Data Processing; Introduction to Management Science; Electronic Data Processing Seminar / 1311 disk unit on order for July, 1964; no outside use of computer solicited / RCEa Ss(7) Se(1962) Dc

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 / RCPa Ss(8) Se(1961) Dc

Western State College, Gunnison, Colo. / *C 64

Business and education / IBM 024, 026, 056, 003, 407, 519, 557, 1620, 1622 / Principles of Unit Record Data Processing; Computer Programming / Ea Ss(4) Se(1956) Dc

West Texas State University, Canyon, Tex. / *C 64 Research, education, and services / Unit record installation, 1620 disk pack system, 1401 tape system / Six computer oriented courses / Business major in Business Statistics-Research and Data Processing is offered / REa Ss(5) Se(1963) Dc

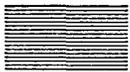
West Virginia University, Computer Center, Morgantown, W. Va. / *C 64 Research, education, administration / Two IBM 1620's, 60K, high I/O, card I/O; IBM 1401, 0K, 4-tape; IBM 7040/1401 system to be delivered Aug. 1964; coml svc / Introduction to Digital Computation / Fortran and SPS programming used on 1620's; Autocoder on 1401 / RCEa Ss(27) Se(1960) Dc

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 / REa Ss(1) Se(1958) Dc

Worcester Polytechnic Institute, Computation Facility, Worcester 9, Mass. / *C 63 Education and computing service to the Institute / IBM 1620, 40K card, 2 card punches; access to IBM 7090 at M.I.T. Computation Center; coml svc / Digital Computing; occasional short non-credit Programming courses / CEa Ss(2) Se(1959) Dc

Yale University, Computer Center, 60 Sachem St., New Haven, Conn. 06520 / *C 64 Research and education / As of Sept. 1, 1964: IBM 7094-7040 DCS, eight tapes 729-V, two tapes 729-VI, CRT and direct data connection, two 600 CPM printers on-line, 1301-II; IBM 1620 (card) 60K; IBM 1401, 4K, two tapes; IBM 610 / Over 16 courses given / REa Ss(25) Se(1957) Dc

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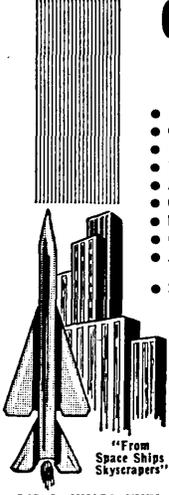


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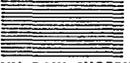
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OVER 700 AREAS OF APPLICATION OF COMPUTERS (Continued from page 84)

20. Psychology

Data reduction and analysis
 Cognitive processes simulation
 Canonical analysis
 Factor analytic studies
 Learning and behavior studies
 Multiple regressive models for prediction
 Neural behavior simulation
 Pattern analytic methods: agreement analysis, configurational analysis, multiple scalogram analysis, profile analysis
 Perception studies
 Psychological tests: analysis
 Study of behavior in space flights
 Synthesis of human language behavior
 Time and motion studies: -data collection and analysis

21. Sociology

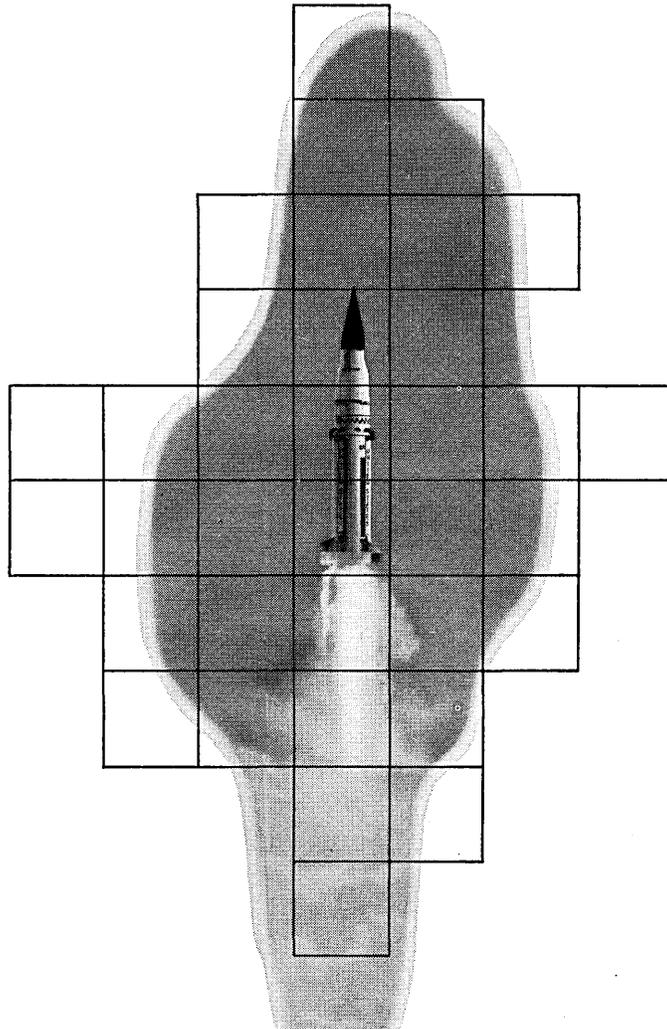
Data reduction and analysis
 Social behavior simulation
 Social processes: hypotheses testing
 Sociometric data: analysis
 Voting behavior simulation

22. Statistics

Bernoulli probability
 Beta function
 Binomial coefficient calculations
 Chi squared function calculations
 Complex error function and integral
 Correlation
 Covariance
 F-test
 Factor analysis
 Forecasting
 Gamma function
 Gaussian probability
 Hypergeometric probability
 Least-square-polynomial fitting
 Moments
 Moving averages
 Multiple regression
 Non-linear estimation
 Period search
 Poisson probability
 Time series analysis and adjustment
 T-test I (sample mean vs. population mean)
 T-test II (difference between two means)
 Variance: analysis

- END -

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Pacing the recent Saturn shot was all in a day's work for the Burroughs B 5000 Information Processing System at NASA's Marshall Space Flight Center in Huntsville, Alabama. Via microwave and a data conversion link, the B 5000 processed and analyzed flight characteristic data such as thrust and acceleration—providing an instantaneous running analysis for *real time data reduction*.

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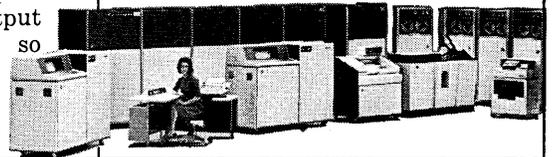
mountains of flight data, helping determine successes and failures of previous flights, and suggesting corrective measures for future shots.

The B 5000 represents a genuine advance in computer technology. It has the ability to do true multi-processing. Its random access disk file memory is the fastest available. Programming languages are powerful and easy to use. Input/output equipment is fully buffered so that all components can operate at rated speeds.

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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

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 Banning
Liege

BRAZIL
Brazilian Association for Electronic Computers
c/o Mr. Jose Andrade
Rua Araujo Porto Alegre
36-8º Andar - Divisao Electronica
Rio de Janeiro, Brazil

CANADA
Computing and Data Processing Society of Canada
c/o Prof. C. C. Gotlieb
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
Gl. Carlsbergvej 2
Copenhagen-Valby

FINLAND
The Finnish National Committee for Information Processing
c/o Prof. Pentti Laasonen
Finland Institute of Technology
Helsinki

FRANCE
Association Francaise de Calcul et de Traitement de l'Information (AFCALTI)
c/o Mr. J. Carteron
Institut d'Astrophysique
98 bis, Boulevard Arago
Paris 14^e

GERMANY
Deutsche Arbeitsgemeinschaft für Rechen-Anlagen (DARA)
c/o Prof. Dr. A. Walther
Technische Hochschule
Darmstadt 16

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

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

NETHERLANDS
Nederlands Rekenmachine Genootschap
c/o Prof. Dr. A. van Wijngaarden
Mathematisch Centrum
2e Boerhaavestraat 49
Amsterdam

NORWAY
Norwegian Society for Electronic Information Processing (NSEI)
c/o Mr. Jan V. Garwick
Chairman NSEI
Norwegian Defense Research Establishment
Kjeller 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

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 Mr. I. L. Auerbach
Auerbach Corporation
1634 Arch Street
Philadelphia 3, Pa.

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

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, 1000 Highland Ave., Abington, Pa., U.S.A.

Association for Educational Data Systems (AEDS), c/o Don D. Bushnell, Pres., System Development Corp., 2500 Colorado Ave., Santa Monica, Calif.

Association Internationale pour le Calcul Analogique, 50 Ave. Franklin D. Roosevelt, Bruxelles, Belgium

Business Equipment Manufacturers Association (BEMA), 235 East 42nd St., New York 17, N.Y., U.S.A.

Data Processing Management Association (DPMA), International Administrative Headquarters, 524 Busse Highway, Park Ridge, Ill., U.S.A.

European Computer Manufacturers Association (ECMA), Geneva, Switzerland

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, Santa Monica, Calif.

International Association for Cybernetics, Palais des Expositions, Place André 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. Wolfey, 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.

Simulation Councils, Inc., P.O. Box 625, Del Mar, Calif. 92014

Society for Computer Sciences, c/o Keith W. Uncapher, Pres., The RAND Corporation, Santa Monica, Calif.

IV.

Regional Computer Associations

A. Chapters of the Association for Computing Machinery in the United States (Information as of June 1963; up-dated information refused by the Secretary of the Association for Computing Machinery)

ALABAMA
Montgomery Alabama Chapter, Hugh Wakefield, c/o Mitre Corp., 203 Lee St., Montgomery, Alabama

ARIZONA
Southern Arizona Chapter, William Plette, United Research Services, Inc., Sierra Vista, Arizona

CALIFORNIA
Orange County, Calif., Chapter, Charles H. Kirk, 306 N. Siesta St., Anaheim, Calif.
Arrowhead Chapter (San Bernardino), Rex H. Turco, 1215 S. Main St., Corona, Calif.
Los Angeles, Calif., Chapter, R. W. Rector, Aero-Space Corp., P.O. Box 95065, Los Angeles 45, Calif.
San Francisco Bay Area Chapter, Robert M. Price, Control Data Corp., 3330 Hillview Ave., Palo Alto, Calif.
University of California Berkeley Student Chapter, Ralph E. Love, Jr., 175 Midwood Ave., Piedmont 10, Calif.

San Diego State College Student Chapter, Lee A. Torgersen, San Diego State College, 3860 Euclid Ave., San Diego 5, Calif.
San Diego, Calif., Chapter, Carl E. Diesen, Mail Zone 101-00, Gen. Dynamics/Astronautics, P.O. Box 1128, San Diego, Calif.
San Fernando, Calif., Chapter, James Tupac, RAND Corp., 1700 Main St., Santa Monica, Calif.

COLORADO
Rocky Mountain Chapter, J. E. Feeley, P.O. Box 15509, Denver 15, Colo.

FLORIDA
 Southeastern Chapter, James L. Thoreen, 69 Gardner Dr., Fort Walton Beach, Fla.
 Central Florida Chapter, Dr. David Clutterham, The Martin Co., MP 200, Orlando, Fla.
 Palm Beach, Florida Chapter, Robert N. Guadano, Pratt & Whitney Aircraft, Florida Research & Dev., United, Fla.
 Florida State University, Student Chapter, B. J. McDonald, 540 Bryan St., Tallahassee, Fla.

ILLINOIS
 Univ. of Southern Illinois Student Chapter, William Blöse, Data Proc. & Comp. Ctr., Southern Illinois University, Carbondale, Ill.
 Chicago Chapter, Arthur Wachowski, Armour Research Foundation, 10 West 35th St., Chicago 15, Ill.

KENTUCKY
 Kentucky Chapter, Dr. Silvio O. Navarro, Computing Center, Univ. of Kentucky, Lexington, Kentucky

LOUISIANA
 Univ. of Southwestern Louisiana, Student Chapter, Dr. James R. Oliver, Director, USL, Computing Center, University of Southwestern Louisiana, Lafayette, La.
 Louisiana Polytechnic Institute, Student Chapter, D. A. Hake, Computing Center, Louisiana Polytechnic Inst., Reeston, La.
 Shreveport, Louisiana, Chapter, Wilbur D. Wright, Research Dept., United Gas Corp., P.O. Box 1407, Shreveport, La.

MASSACHUSETTS
 Greater Boston Chapter, Joseph S. DeNatale, Avco Corp., Wilmington, Mass.

MICHIGAN
 Metropolitan-Detroit, Michigan Chapter, Douglas T. Lewis, Engineering Staff, General Motors Tech. Ctr., Warren, Mich.

MISSOURI
 Kansas City, Missouri Chapter, Harley Follmer, IBM Corp., P.O. Box 24, Kansas City 41, Missouri
 Missouri School of Mines & Metallurgy Student Chapter, Ralph E. Lee, Director, Computing Center, Missouri School Mines & Metallurgy, Rolla, Missouri
 St. Louis, Missouri, Chapter, Ray Hollenback, Ernst & Ernst, St. Louis, Missouri

NEBRASKA
 Midlands, Nebraska, Chapter, R. G. McGrew, 3102 Wallace Ave., Bellevue, Nebraska

NEW JERSEY
 Northern New Jersey Chapter, Glen K. L. Mulligan, International Electric Corp., Box 205, Paramus, N.J.
 N.J. Atlantic County Chapter, George Trimble, Computer Usage Co., RD 3-308, Princeton, N.J.

NEW MEXICO
 Rio Grande Chapter, Randall M. Conkling, New Mexico University, Box 548, University Park, N.M.

NEW YORK
 New York Southern Tier Chapter, John W. Forman, 2700 Helen St., Endicott, N.Y.
 Kingston, New York, Chapter, John Dent, R.D. #2, Box 112B, Kingston, N.Y.
 Syracuse, New York, Chapter, Dave Bahrs, 10 Apple Tree Lane, Liverpool, N.Y.
 Poughkeepsie, New York, Chapter, John B. Gilbert, P.O. Box 27, Poughkeepsie, N.Y.
 Hudson-Mohawk Chapter, J. T. Godfrey, RRI-Box 225, 2 Bel-Aire Dr., Scotia 2, N.Y.
 Long Island Chapter, John E. Denmes, Applied Math Div., Brookhaven Natl. Lab., Upton, N.Y.
 Westchester-Fairfield County Chapter, Ottice Tidwell, ATT, 101 North Broadway, White Plains, N.Y.
 Address correspondence to: Florence Jeanne Oswald, Celestron Assoc., 33 West Fort Hill Ave., Yonkers, N.Y.

NORTH CAROLINA
 Western Carolinas Chapter, Myron K. Simes, 815 Orchard St., Hendersonville, No. Car.
 Central Carolina Chapter, Dr. Robert T. Herbst, 260 Chester Rd., Winston-Salem, No. Car.

OHIO
 Cincinnati-Dayton Area, Ohio Chapter, Richard B. Thoman, Procter & Gamble, Box 599, Cincinnati, Ohio
 Cleveland-Akron Chapter, Vearl N. Huff, NASA, 2100 Brookpart Rd., Cleveland, Ohio. Address correspondence to: P.O. Box 4741, Cleveland 25, Ohio

OKLAHOMA
 Bartlesville, Oklahoma, Chapter, M. E. Jean, c/o IBM Corp., P.O. Box 730, Bartlesville, Okla.

Tulsa, Oklahoma, Chapter, R. A. Semrad, Sinclair Oil & Gas Co., 909 South Boston, Tulsa, Okla.

OREGON
 Willamette Valley, Oregon, Chapter, Don Witcraft, Oregon State University, Dept. of Mathematics, Corvallis 1, Oregon

PENNSYLVANIA
 Delaware Valley Chapter, James P. Anderson, Burroughs Corp., Paoli, Penn.
 Pittsburgh Chapter, W. R. Cadwell, Westinghouse Electric Corp., Bettis Atomic Power Lab., Box 1468, Pittsburgh, Penn.
 Carnegie Inst. of Tech. Student Chapter, Dr. Alan J. Perlis, Computation Center, Carnegie Inst. of Tech., Pittsburgh, Penn.

TENNESSEE
 Mid-Southeast Chapter, C. G. Williams, Oak Ridge National Lab., P.O. Box X, Oak Ridge, Tenn.

TEXAS
 Agricultural & Mechanical College of Texas (Texas A & M Student Chapter, Dan D. Drew, 209 Sulfur Spring Rd., Bryan, Texas
 Dallas-Fort Worth, Texas Chapter, Ira Wright, 909 British Blvd., Grand Prairie, Texas
 Houston, Texas Chapter, H. H. Rachford, Humble Research Ctr., P.O. Box 2180, Houston, Texas

UTAH
 Northern Utah Chapter, G. D. Farnsworth, Scientific Data Processing, Thiokol Chemical Corp., Brigham City, Utah
 Utah Chapter, Alfred Weiss, Bear Creek Mining Co., 406 Executive Bldg., 455 East Fourth South, Salt Lake City, Utah.

VIRGINIA
 Washington, D.C., Chapter, Solomon Rosenthal, 1201 S. Courthouse Rd., Arlington 4, Va.

WISCONSIN
 Milwaukee, Wisconsin, Chapter, Robert J. Robinson, 1515 West Wisconsin Ave., Milwaukee 3, Wis.

B. Other Regional Associations
 Northwest Computing Association, P.O. Box 836, Seahurst, Wash.

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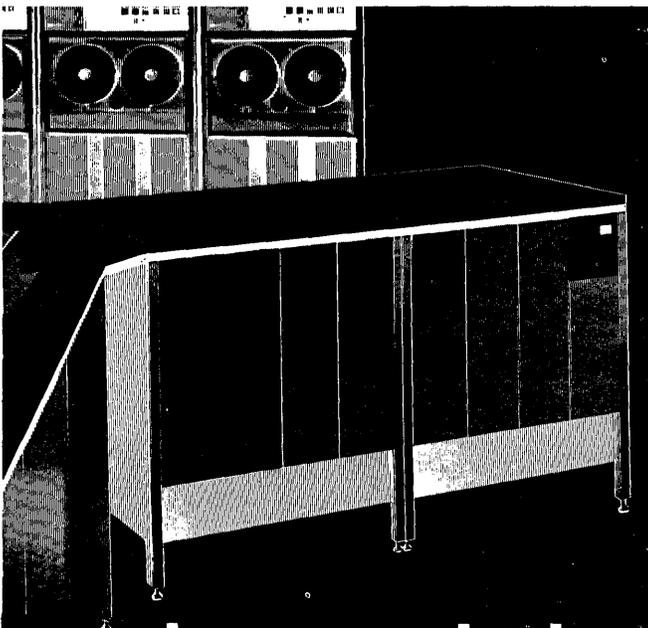
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COMPUTER USERS GROUPS -ROSTER

Following is a roster of groups of computer users. All additions, corrections, and comments will be welcome.

Abbreviations: *C: Information checked
6: Information gathered / 64: 1964
63: 1963 etc.

Control Data G-15 Users Association / Control Data G-15 / Robert J. Margolin, Sec'y, Control Data Corp., Computer Div., 5630 Arbor Vitae St., Los Angeles 5, Calif. / *C 64

CO-OP / Control Data 1604, 1604-A, 3400 and 3600 / Mr. Richard C. Wise, Sec'y, Co-Op, c/o System Development Corporation, 2500 Colorado Ave., Santa Monica, Calif. / *C 64

CUBE / Burroughs computers: B5000, B200 (B260, B270, B280), B220, B205 / Mr. Richard D. Frick, Sec'y, CUBE, c/o Abbott Laboratories, 1400 Sheridan Rd., North Chicago, Ill. / *C 64

DECUS / PDP-1, PDP-4, PDP-5, PDP-6 / Mrs. Elsa Newman, Sec'y, DECUS, Digital Equipment Corp., Maynard, Mass. / *C 64

General Electric 225 Computer 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 computers / Mr. Otis Tidwell, Sec'y, GUIDE, c/o American Telephone & Telegraph Co., 400 Hamilton Ave., White Plains, N.Y. / *C 63

H-400 Users Group / H-400 and H-1400 computers / Mr. Everett Goff, Sec'y, H-400, c/o New Hampshire Insurance Group, 1750 Elm St., Manchester, N.H. / *C 63

H-800 Users Association / Honeywell 800 and 1800 computers / Mr. Henry J. Jueneemann, Sec'y-Treas., H800 Users Association, c/o National Institutes of Health, Bethesda 14, Md. / *C 64

JUG / Joint Users Group / Mr. Donald B. Houghton, Sec'y, JUG, c/o Westinghouse Electric Corp., Business Systems Equipment, 3 Gateway Center - 15 West, Pittsburgh 22, Pa. / G 62

NCR 304 Users Organization / NCR 304 / Mr. E.N. Barrett, Sec'y, c/o The National Cash Register Co., Main & "K" Sts., Dayton 9, Ohio / *C 64

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

PBUG / Packard Bell computers / Mr. Robert R. Manchester, Sec'y, Packard Bell Users' Group, c/o Packard Bell Computer Corp., 1905 Armacost Ave., Los Angeles 25, Calif. / G 62

POOL / LGP-21, LGP-30, RPC-4000 / Mrs. Juanita H. Vanderford, Sec'y, POOL, 100 East Tujunga Ave., Burbank, Calif. 91503 / *C 64

RCA Computer Users Association / RCA 501, 601, and 301 computers / Mr. D.M. Parnell, Jr., Sec'y, c/o Allegheny Ludlum Steel Corp., Oliver Bldg., Pittsburgh 22, Pa. / *C 63

Recomp Users' Group / Recomp II and III computers / Mr. Howard L. Judd, Sec'y, RUG, c/o Autonetics Industrial Products, 3400 E. 70th St., Long Beach 5, Calif. / *C 63

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, 924, 924-A and 3200 / Mr. Carl L. Hill, Sec'y, SWAP, c/o System Development Corporation, 2500 Colorado Ave., Santa Monica, Calif. / *C 64

TUG / Philco 2000 computers / Mr. E.D. Reilly, Sec'y, TUG, c/o G.E. Knolls Atomic Power Laboratory, Box 1072, Schenectady, N.Y. / *C 63

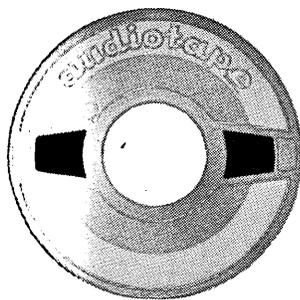
Univac Users Association / Univac computing systems / Mr. David D. Johnson, Sec'y, c/o Ethyl Corporation, 100 Park Ave., New York 16, N.Y. 10017 / *C 64

- END -



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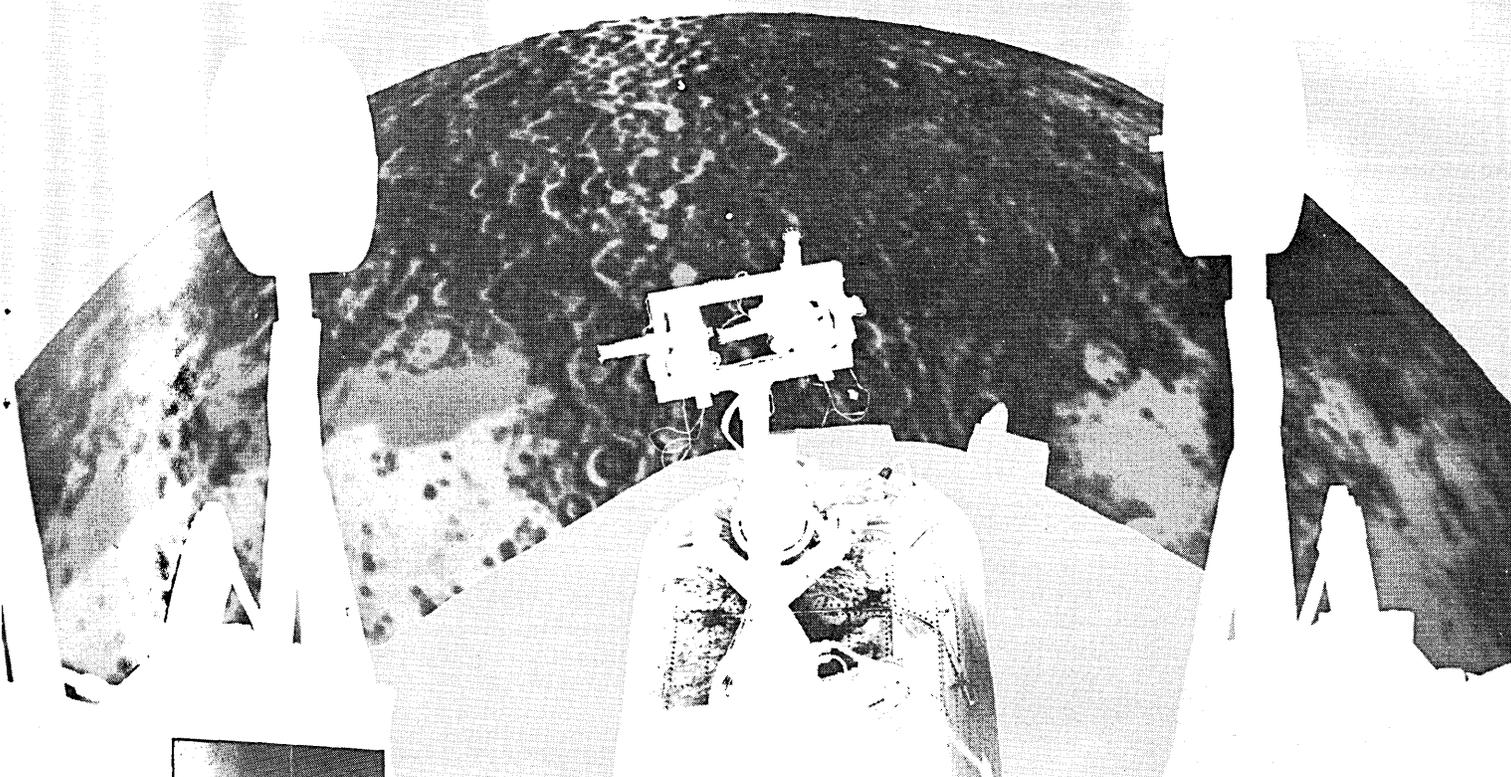


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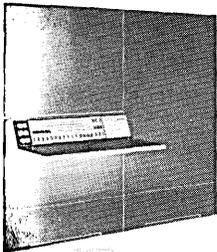
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Bruce Campbell's Will
The Fox, Hen, Corn, and Hired Man
The Uranium Shipment and the Space Pirates
General Alarm at the Fortress of Dreadeerie
The Two Suspicious Husbands at Great North Bay

The Submarine Rescue Chamber Squalux
The Three Monkeys who Spurned Evil
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The Automatic Elevator in Hoboken
Timothy's Mink Traps
Josephine's Man Trap
Douglas Macdonald's Will
Word Puzzle with TRICK

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Guessing Helen's Age
Geography Quiz
Mr. Hardstone's Grammar Test
Solving Right Triangles

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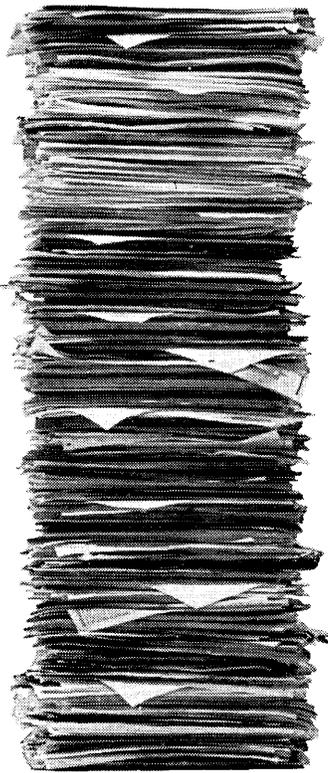
The Jiminy Soap Advertising Sign
The Sign that Spells Alice
Tom, Dick, and Harry's Private Signaling Channels
Jim's and Ed's Intercom

CRYPTOGRAPHIC MACHINES

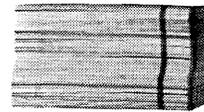
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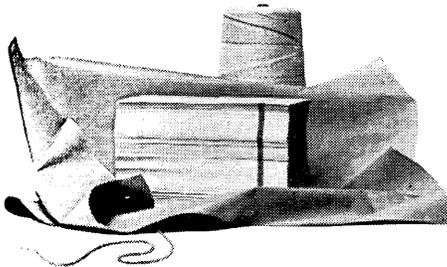
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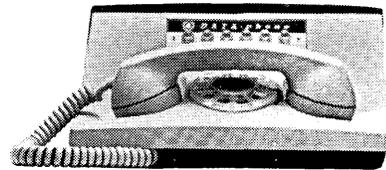
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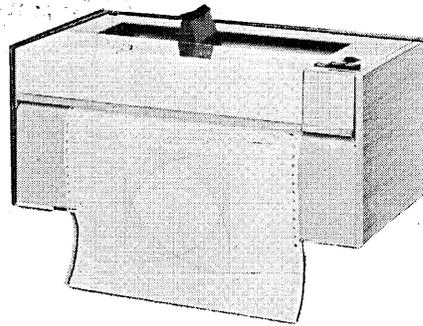
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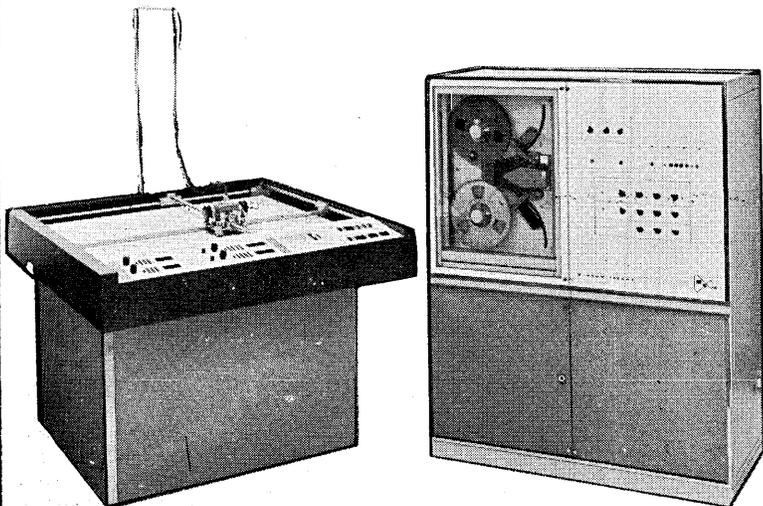


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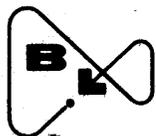
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