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6th Annual Issue

THE COMPUTER DIRECTORY AND BUYERS' GUIDE, 1960

the June, 1960 issue of
"Computers and Automation"

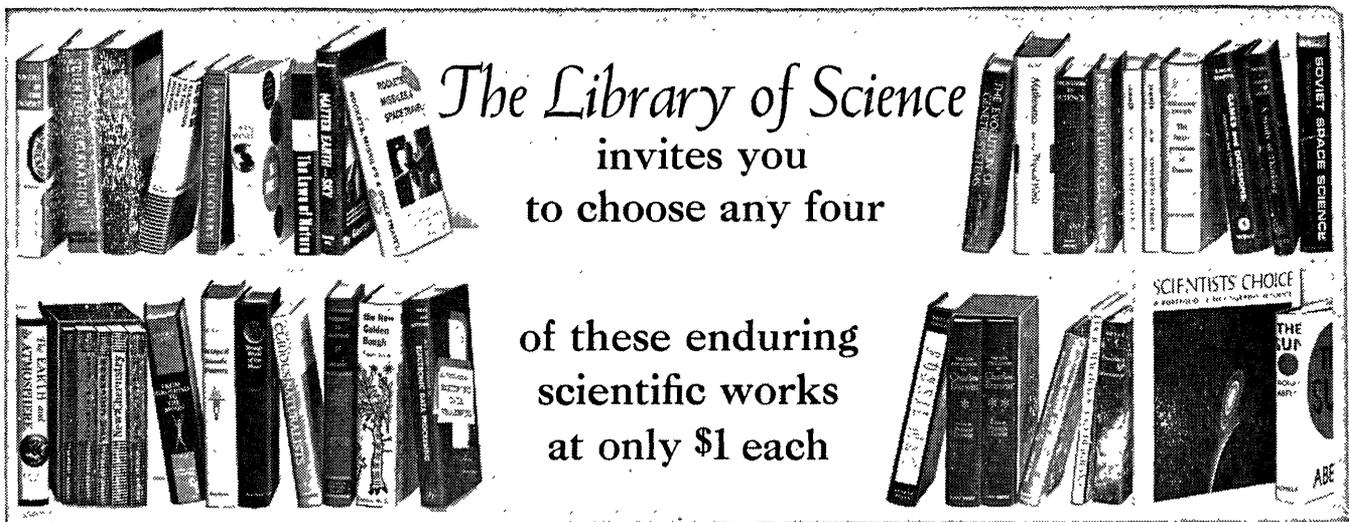
- Part 1: Roster of Organizations in the Computer Field
(cumulative)
- Part 2: Buyers' Guide for the Computer Field: Products
and Services for Sale or Rent
(cumulative)

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VOL. 9 - NO. 6



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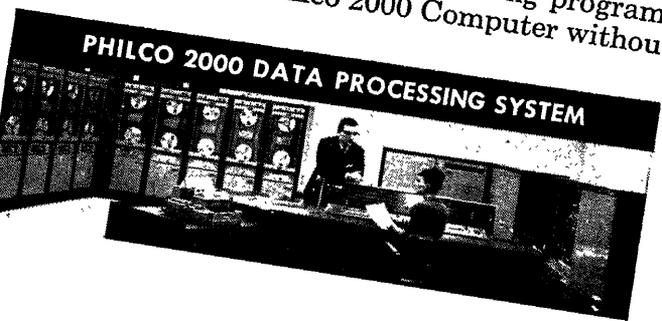
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The Computer Directory and Buyers' Guide, 1960

Part 1: Roster of Organizations in the
Computer Field (cumulative) . . 10

Part 2: Buyers' Guide for the Computer
Field: Products and Services for Sale
or Rent (cumulative) 50

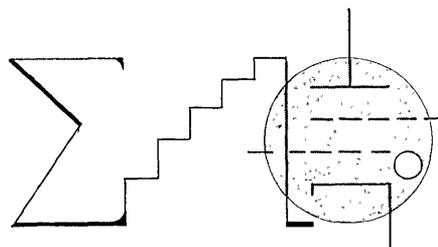
The sixth annual edition of "The Computer Directory and Buyers' Guide," the June letterpress issue of *Computers and Automation*, is here presented with the hope that it will prove essential to the work of people in the computer field. The June news issue, vol. 9, no. 6B, has already been mailed to subscribers.

"Part 1, Roster of Organizations in the Computer Field," contains over 700 entries.

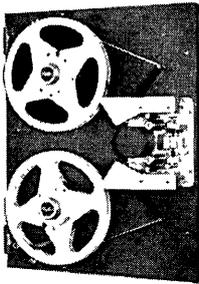
"Part 2, Buyers' Guide for the Computer Field: Products and Services for Sale or Rent," contains over 2000 entries.

The "Roster of Organizations," is the reason for our existence as a magazine, since our first issue, Vol. 1, No. 1, in September, 1951, consisted only of a seven page purple ditto list of organizations in the computer field.

As usual, we ask our readers please to tell us of additions, corrections, and revisions, so that we may continue to try to make the reference information that we publish useful and reliable.

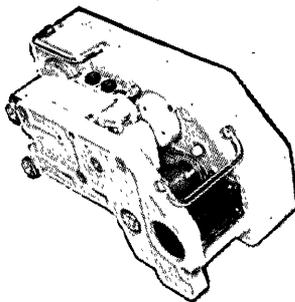


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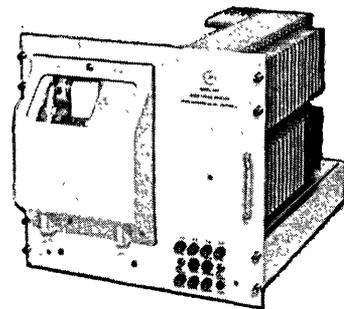
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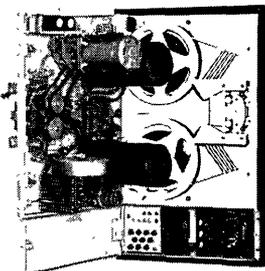
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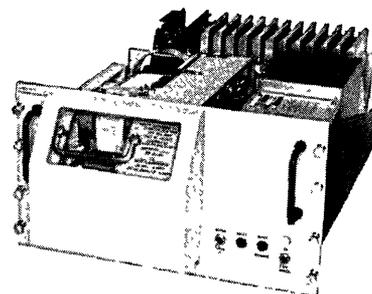
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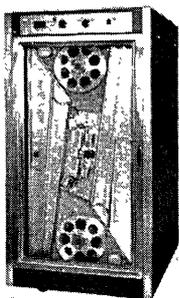
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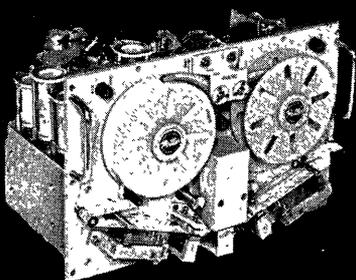
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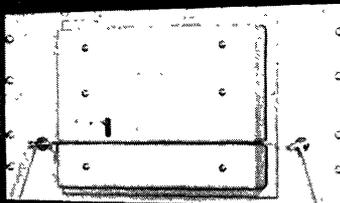
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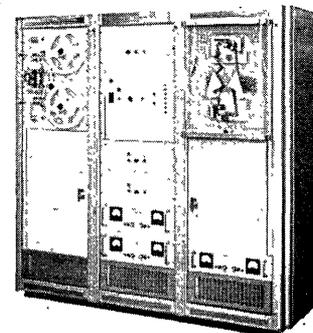
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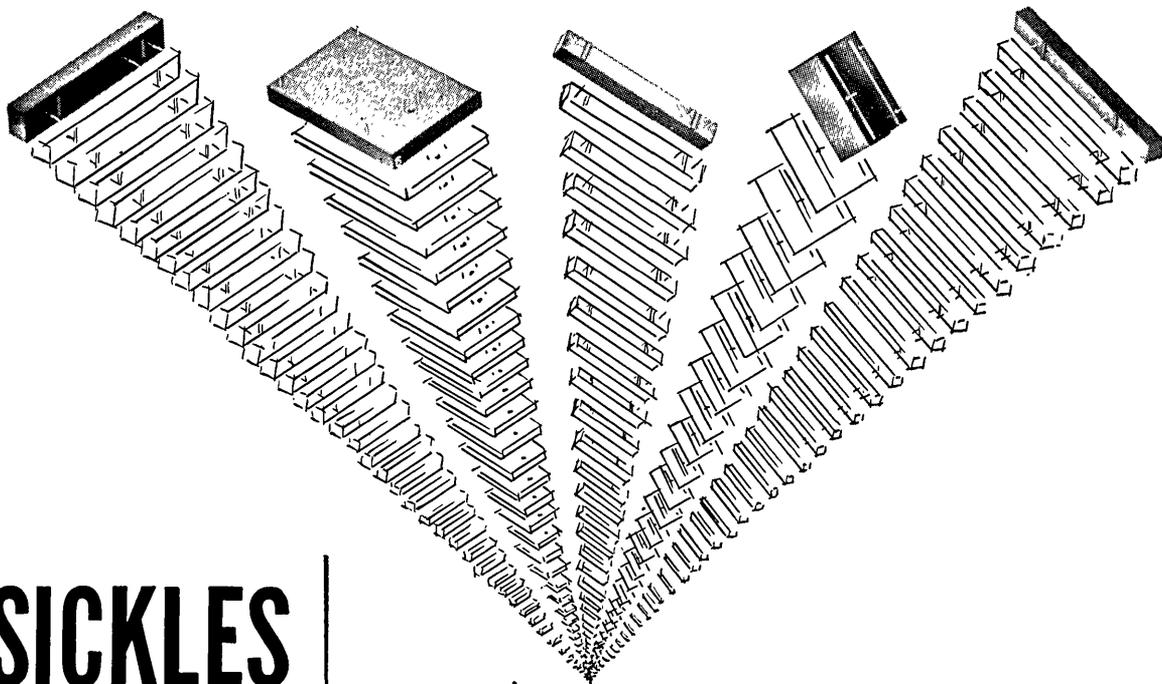
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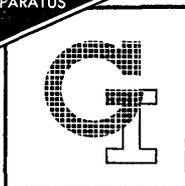
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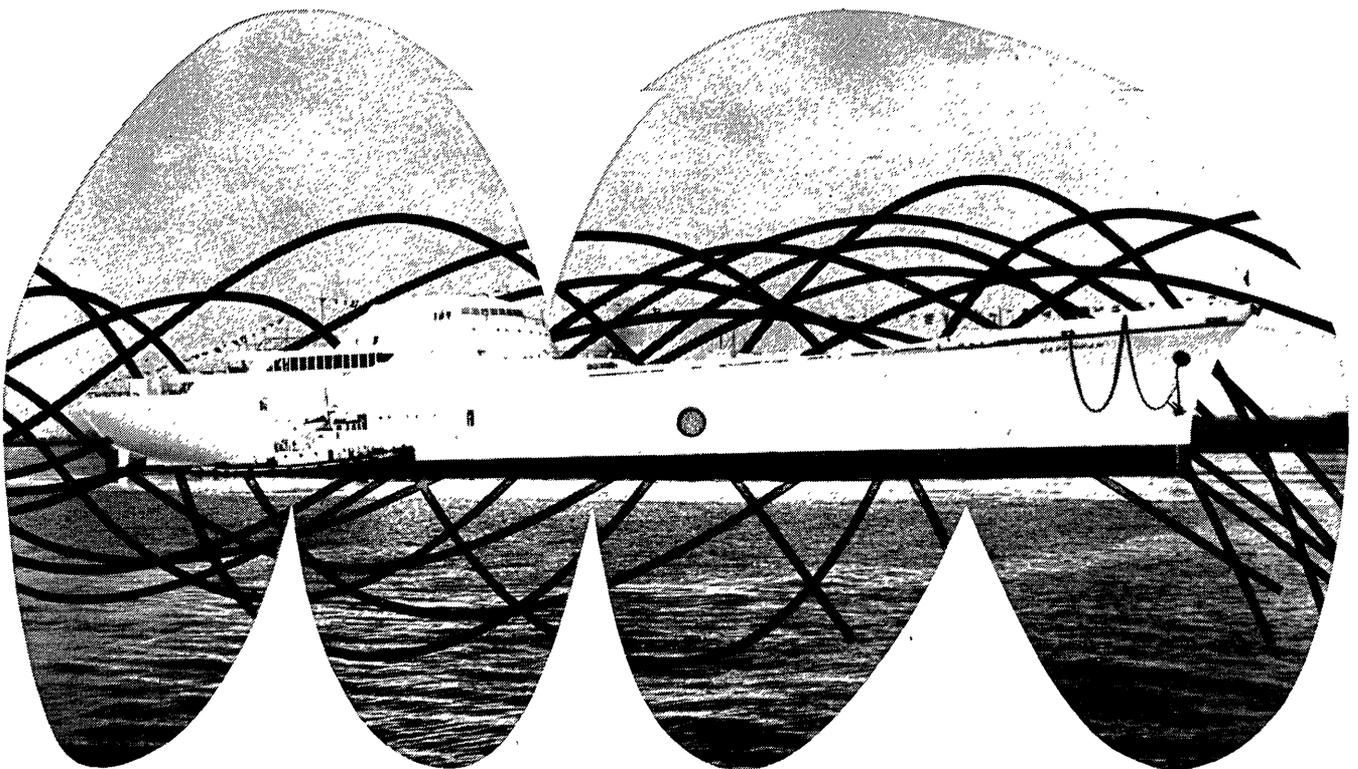
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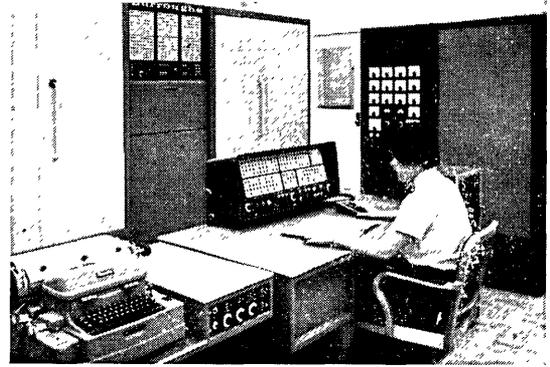
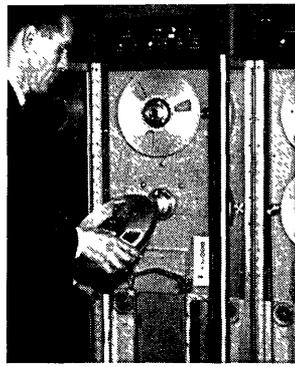
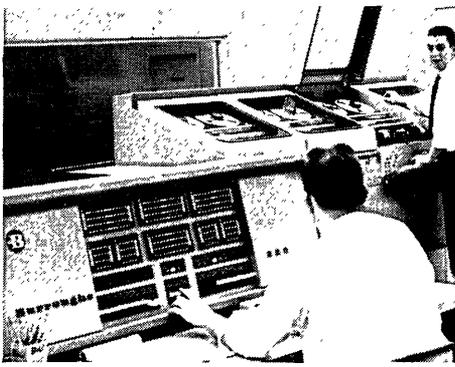
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team that introduced
atomic power to the merchant fleet...*





*another Burroughs computer
is helping build one of the
world's largest steam boilers...*

*and still another is speed-
ing a vast research and
development program*

History has already earmarked July 21, 1959, in remembrance of launching the N. S. Savannah—the world's first nuclear merchant ship. This graceful queen of the seas may well be the precursor of a vast atomic merchant fleet—ships operating quietly and efficiently on nuclear engines.

Yet months before touching water, the Savannah's nuclear propulsion system was obtaining hundreds of "trial runs" on a Burroughs 205 computer at The Babcock & Wilcox Company's Atomic Energy Division in Lynchburg, Virginia.

Long before the vessel was launched these computer runs predicted changes that were to take place in the heart of the nuclear reactor. With the aid of these data, decisions were made as to the optimum size of the reactor, the lifetime of the fuel elements, amount of fuel needed, approximate costs and myriad other specifications.

Of course, a simulated run could have been made with a desk calculator—but it would have taken one year to complete a single run. The 205 has completed the same job in just a few hours.

This is the latest installment in a success story that started in November, 1955—the installation date of the Burroughs 205 at the Atomic Energy Division. Aside from the N. S. Savannah project, the same computer contributed immeasurably to other reactor designs, and other engineering work involving stress and thermal calculations, plus cost

accounting data processing.

A recognized pioneer in the application of electronic data processing equipment, B&W was one of the first companies to develop its own automatic programming system. The effect of this powerful programming aid—called DUMBO—is to extend the capabilities of the 205 to hundreds of engineers without special knowledge of computer characteristics and techniques.

B&W engineers at Lynchburg are now able to write a plan for the computer to follow; DUMBO then automatically translates the plan into 205 language for electronic data processing.

With valuable 205 experience on design problems of a different nature, B&W's Boiler division (at Barberton, Ohio) has now installed a larger Burroughs 220 computer system to handle its increasing activities. Now in the design stage, with the aid of the 220, is one of the largest steam boilers ever conceived. When finally erected, the new steam boiler will stand as high as a 22-story skyscraper, produce 4,900,000 pounds of steam per hour, and generate sufficient power to light a city of 5,000,000 population.

Whether designing mammoth power equipment or a small industrial boiler, the Burroughs 220 has become a vital tool from initial bid through final design. The Burroughs 220 is helping to win orders with fast-but-realistic proposals, slashing costs and lead time at every possible opportunity.

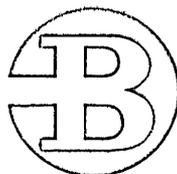
B&W, whose product range includes tubular products, refractories, and marine boilers, as well as stationary steam generators, is also spearheading the development and construction of nuclear stationary and marine propulsion power plants. In all these programs, B&W depends upon the most modern analytical processing equipment.

At the company's Research and Development Center based in Alliance, Ohio, a third Burroughs computer has recently gone "on the air." This Burroughs 205 was purchased to process data for a variety of research experiments in the fields of heat transfer, fluid flow, stress analysis, and thermodynamics. Its immediate impact has been to free creative engineering talent from routine calculations and to reapply valuable human resources to the pursuit of new sources of economical energy. This 205 has already developed research data otherwise inaccessible.

All three Burroughs computers are helping B&W to meet a wide range of the nation's power requirements in the most efficient and economical way possible. Hundreds of other industrial and commercial users are confirming similar experiences.

Burroughs' complete line of electronic data processing equipment is backed by a coast-to-coast team of computer specialists, able to advise on how Burroughs can help you in your business. For additional information, write General Manager, Data Processing Systems Group, Detroit, Michigan.

Burroughs Corporation



"NEW DIMENSIONS/in electronics and data processing systems"

Part I of
THE COMPUTER DIRECTORY AND BUYERS' GUIDE, 1960
 the June, 1960, issue of "Computers and Automation"

ROSTER OF ORGANIZATIONS IN THE COMPUTER FIELD

(Cumulative, information as of May 1, 1960)

The purpose of this Roster is to report organizations (all that are known to us) in the computer field: organizations making or developing computing machinery or data-processing machinery; organizations supplying computing services or consulting services in the computer field; and organizations supplying components or services used in the computer field if related to the field (for example, magnetic drums 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 / names and titles of two officers. In cases where we do not have complete information, we put down what we have. Entries in this Roster are free. If the entry for the organization is to be printed in bold face type, there is a nominal charge of \$10.

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
- 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 (1930 or earlier)

- Me Organization established a "medium" time ago (1931 to 1950)
- Se Organization established a short time ago (1951 or later) (no. in parentheses is year of establishment)

Interest in Computers and Automation

- Dc Digital computing machinery
- Ac Analog computing machinery
- Ic Incidental interests in computing machinery
- 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) / 60: information furnished in 1960 / 59: information furnished in 1959 / etc.

Organization Entry Form

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

1. Your organization's correct name?
 2. Street address?
 3. City, Zone, State?
 4. Telephone Number?
 5. Brief Description of your Product Lines and Services
.....
.....
 6. Types of Activity that you engage in:
 Research
 Manufacturing
 Selling
 Consulting
 Other (please explain)
 7. Approximate number of your employees?
 8. Year when your organization was established?
 9. Listings for two of your executives:
 Name Title
 - Name Title
- Filled in by Title..... Date.....

ROSTER

A

- Accurate Electronics Corp., 169 S. Abbe Rd., Dept. C., Elyria, Ohio / EMerson 6-7925, ENdicott 5-1211 / *C60
 Plug and strip type plotting boards, connectors, jacks, jack panels, and terminals / RMSa Ms(50) Se(1952) Ic
- Ace Electronics Associates, Inc., 99 Dover St., Somerville 44, Mass. / SOMerset 6-5130 / *C 60
 Potentiometers, linear, non-linear, precision, sub-miniature, micro-miniature; trimmers, conductive plastic. / RMSa Ms(150) Se(1956) Ic
- ACF Electronics Div., 48 Lafayette St., Riverdale, Md. / WARfield 7-4444 / *C 59
 Special purpose analog computers, test equipment computers, magnetic clutches, simulators / RMSa Ls(1300) Le(ACF, 1899) AIC
- Acheson Colloids Co., a div., of Acheson Industries, Inc., 1640 Washington, Port Huron, Mich. / YUKon 4-4171 / *C 60
 Dispersions of colloidal graphite, molybdenum disulfide, and other solids used for surface and conductive coatings / RMSCa Ms(100) Le(1908) Ic
- Acroscope Engineering Co., 1001 E. Manchester Ave., Los Angeles 1, Calif. — no response '59, '60
- Actuarial Computing Service, Inc., 1389 Peachtree St., N.E., Atlanta 9, Ga. / TR 5-6727 / *C 60
 Specializing in computer applications for the insurance industry, job shop computing / Ca Ss(7) Se(1956) Dc
- ADB Institutet (Scandinavian Automatic Data Processing Institute), School of Technology, Gothenburg University, Gibraltargatan 5 P, Gothenburg, Sweden / 205209, 205248, 205258 *C 59
 University training in automatic data processing. Consulting, programming, coding and running problems on Alwac III-E computer for industries in Scandinavia / RCPa Ss(15) Se(1957) Dc
- ADDO-X, INC., 300 Park Ave., New York 22, N.Y. / PLaza 5-5420 / *C 60
 Ten-key electric precision adding machines, posting machines, calculators with solenoid input, read-out, tape punch, tape reader for 5, 6, 7 and 8 column codes / Sa Ls(Sweden, 2800; USA, 60) Me(1941) Ic
 George Agrell, Chairman of the Board / N. Gosta Arnheim, Pres.
- Addressograph-Multigraph Corp., 1200 Babbitt Rd., Cleveland 17, Ohio / RE 1-8000 / *C 60
 Small, medium and large scale, multi and special purpose electronic data processing systems; card readers, file processor, multi-line serial printer and high speed line printers; electronic facsimile printers; transfer printers; bar code scanners. / RMSa Ls(8000) Le(1903) IMc
- Advanced Electronics, Inc., 94 Silas Deane Hwy., Rocky Hill 9, Conn. — no response '59, '60
- AEC Computing and Applied Mathematics Center, Institute of Mathematical Sciences, 4 Washington Place, New York 3, N.Y. / ORegon 7-0200 / *C 60
 Research and computing service for the Atomic Energy Commission. IBM 704 with peripheral equipment / RCPGa Ms(100) Se(1952) Dc
- Aemco Inc., 10 State St., Mankato, Minn. — no response '59, '60
- Aero Electronics Co., 1512 N. Wells St., Chicago 10, Ill. — no response '59, 60
- Aeronca Mfg. Corp., Aerospace Div., Hilltop & Frederick Rds., Baltimore 28, Md. / RIDgeway 7-0200 / *C 60
 Digital data processing and handling equipment, code translating and decoding / RMSa Ms(65) Le(1928) Dc
- Aeronutronic Systems, Inc., Computer Division (a div. of Ford Motor Co.), Ford Rd., Newport Beach, Calif. / ORiole 3-2520 / *C 59
 Family of message entry and display equipment for digital computers; large high-speed random access magnetic disk storage systems; multi-megacycle switching and storage systems; solid state digital printed circuit components (flip-flops, read and write amplifiers, blocking oscillators, diode logic); complete magnetic drum memory systems; airborne digital computers; military ground support and control systems, including analog and digital data processing equipment / RMSCa Ms(250) Se(1956) DAIC
- Aerovox Corp., Belleville Ave., New Bedford, Mass. / WYman 4-9661 / *C 59
 Capacitors — all types, resistors, ferrite cores, jacks, magnets, switches / RMSa Ls(3000) Le(1922) Ic
- Aircraft Armaments, Inc., Cockeysville, Md. / NO 6-1400 / *C 60
 Research, design, development, manufacture, and test of mechanical, explosive, electronic, and electro-mechanical equipment for land, sea, and air use based on custom specifications / RMSa Ls(800) Se(1950) DAIC
- Airflyte Electronics Co., 535 Avenue A. Bayonne, N.J. / HEMlock 6-2230 / *C 60
 Electronic components, analog-to-digital and digital-to-analog converters, rotary segmented switches, custom encapsulation services, plug-in and potted circuits, embedded assemblies and components, stepping switches / RMSa Ms(75) Me(1946) DAIC
- Airpax Electronics Incorporated, 6601 N. W. 19th St., Ft. Lauderdale, Fla., another division in Cambridge, Md. / LUDlow 3-6160 / *C 60
 Complete line of servo, data logging and control systems / RMSa Ms(375) Me(1948) Ic
- Airtronics, Inc., 5522 Dorsey Lane, Washington 16, D.C. — no response '59, '60
- Aladdin Electronics, A Division of Aladdin Industries, Inc., (formerly Aladdin Radio Industries) 703 Murfreesboro Rd., Nashville 10, Tenn. / CHapel 2-3411 / *C 59
 Pulse transformers, magnetic shift registers, computer logical elements utilizing magnetic materials, other magnetic core computing machine components. Ferrite cored inductors. IF transformers, transistor IF transformers / RMSa Ls(600) Le(1908) Ic
- Alden Electronic and Impulse Recording Equipment Co., Alden Research Center, Westboro, Mass. — no response '59, '60
- Alden Products Co., 114D No. Main St., Brockton, Mass. / JUNiper 3-0160 / *C 60
 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 and graphic recording systems / RMSa Ms(300) Le(1929) Ic
- ALEXANDRIA DIVISION, AMERICAN MACHINE & FOUNDRY CO., 1025 N. Royal St., Alexandria, Va. / KIng 8-7221 / *C 60**
Data processing applications, digital computer programming, computer simulation, multicolor light and switch indicators for annunciating color coded information on monitored panels or consoles / RMS (systems engineering)a Ms(200) Le(1900) DIc
J. D. Graves, Gen'l Mgr. / D. W. Pendleton, Ass't Gen'l Mgr.
- Alfax Paper & Engineering Co., Washington St., Westboro, Mass. — no response '59, '60
- Allard Instrument Corp., 146 E. Second St., Mineola, L. I., N.Y. / Pioneer 6-5895 / *C 60
Visual indicators / RMSa Ss(20) Se(1952) Ic
- Allegany Instrument Company, Inc., 1091 Wills Mountain, Cumberland, Md. / PArkview 4-1200 / *C 60
Data recording and computing systems for ballistic measurements / RMSa Ms(250) Se(1952) ADc
- Allen-Bradley Co., 136 W. Greenfield Ave., Milwaukee 4, Wis. — no response '59, '60
- R. D. Allen Business Machines, Inc., Front St. N.W., Grand Rapids, Mich. — no response '59, '60
- Allgemine Elektricitaets-Gesellschaft, Frankfurt on Main, Germany — no response '59, '60
- Allied Control Company, Inc., 2 East End Ave., New York 21, N.Y. / BUtterfield 8-7403 / *C 60
Relays; sub-miniature switches; solenoid valves / RMSa Ls(1000) Me(1938) Ic
- Allies' Products Corp., P. O. Box 188, Kendall 56, Fla. / CEdar 5-5424 / *C 60
Precision carbon-deposited resistors / RMSa Ss(10) Se(1951) Ic
- Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise, Hawthorne, Calif. / OSborne 5-0311 / *C 60
General purpose digital computer (ALWAC III-E), computer component parts, card converters, universal tester, magnetic tape transport, magnetic tape buffer, magnetic heads, magnetic drums, paper tape console, data reduction and input-output equipment / RMSa Ms(60) Se(1952) DIc
- American Automatic Typewriter Co., 2323 No. Pulaski Rd., Chicago 39, Ill. — no response '59, '60
- American Electronics, Inc., 1725 W. 6th St., Los Angeles 17, Calif. / DUmkirk 5-7401 / *C 60
Instrumentation tape recorders, computer power supplies, data integration and collecting systems; nuclear products, radiation standards, badges and counters; computers, analysis equipment, line printers; magnetic amplifiers; signaling controls; magnetic card and tape readers; resolvers, synchros; telemetering systems / RMSa Ls(2000) Me(1945) DAic
- American Hydromath Corp., 42-17 Hunter St., Long Island City 1, N.Y. / EX 2-4242 / *C 59
Mechanical and electro-mechanical analog computers / RMSa Ss(15) Me(1940) Ac
- American Lava Corp., Manufacturers Rd., Chattanooga 5, Tenn. / AMherst 5-3411 / *C 59
Custom manufacturing services including technical ceramics and metal-ceramic combinations / RMSa Ls(over 1000) Le(1902) Ic
- American Machine & Foundry Co. — see Alexandria Div.
- American Machine & Foundry Co., Computing Center, Greenwich, Conn. — no response '59, '60
- American Molded Products Co., 2727 W. Chicago Ave., Chicago 22, Ill. — no response '59, '60
- American Research and Mfg. Corp., 920 Halpine Ave., Rockville, Md. / HA 7-7116 / *C 60
Amplifiers, demodulators, power supplies. Data reduction, engineering analysis and report preparation / RMSCa Ms(65) Se(1954) Ic
- AMP, Inc., Eisenhower Blvd., Harrisburg, Pa. / JOrdan 4-0101 / *C 60
Solderless terminals, connectors and wiring devices, programming plugboards and systems, patchcords / RMSa Ls(1000) Me(1941) Ic
- Amperex Electronic Corp., 230 Duffy Ave., Hicksville, L. I., N.Y. / WElls 1-6200 / *C 60
Electron tubes and semiconductors (diodes, transistors) / RMSa Ls(500) Le(1930) Ic
- Amperite Co., Inc., 561 Broadway, New York 12, N.Y. / CANal 6-1446 / *C 59
Delay relays, ballast tubes for regulation of current and voltage / RMSa Ms(80) Le(1924) Ic
- AMPEX CORP., DATA PRODUCTS CO., 934 Charter St., Redwood City, Calif. / EMerson 9-7111 / *C 60**
Magnetic tape recorder-reproducers and readers; magnetic tape systems for programming computers; memory systems; input-output devices; digital and analog magnetic storage devices; data recording equipment; facsimile equipment; information retrieval devices / RMSa Ls(2000) Me(1947) Ic
- Ampex Corp., Instrumentation Div. — name changed to Ampex Corp., Data Products Co., which see
- Ampex Magnetic Tape Products, a Division of Ampex Corp., P. O. Box 190, Opelika, Ala. / SHerwood 5-7645 / *C 60
Tape for analog telemetering, digital telemetering, and programming computers / RMSCa Ms(275) Se(1950) Ic
- Amphenol-Borg Electronics Corp., Broadview, Ill. / - / Connectors and potentiometers for computer applications; all types / RMSa Ls Se(1958) Ic
- Amphenol Cable & Wire Div., Amphenol-Borg Electronics Corp., S. Harlem Ave., at 63rd St., Chicago 38, Ill. / BISHop 2-1000 / *C 60
Coaxial cable / RMSa Ms(350) Me(1932 as American Phenolic) Ic
- Amphenol Connector Div., Amphenol-Borg Electronics Corp., 1830 S. 54th Ave., Chicago 50, Ill. / BISHop 2-1000 / *C 60
AN/MS, RF and Rack and Panel Connectors / RMSa Ls(1600) Me(1932 as American Phenolic) Ic
- Amphenol Electronics Corp. — name changed to Amphenol-Borg Electronics Corp., which see
- Analogue Controls, Inc., 200 Frank Rd., Hicksville, L. I., N.Y. / OVerbrook 1-7300 / *C 60
Analog-digital and digital-analog converters, solid state triangle solvers, packaged servos, precision potentiometers, and analog computers / RMCa Ms(140) Se(1954) DASic

- Andersen Laboratories Inc., 501 New Park Ave., West Hartford 10, Conn. / ADams 6-1281 / *C 60
 Ultrasonic and lumped constant delay lines and variable ultrasonic delay lines / RMSa Ms(75) Me(1950) DAsC
- Anelex Corp., 150 Causeway St., Boston 14, Mass. — no response '59, '60
- Applied Science Corp. of Princeton — now Electro-Mechanical Research, Inc., ASCOP Div., which see A R & D A, 135 Main St., Belleville 9, N.J. / PL 9-4902 / *C 60
 Consultants, designers of servomechanisms, measuring and recording systems, telemetering systems, analog and digital computers / MCA Ss(20) Se(1956) DAISc
- Arenberg Ultrasonic Lab., Inc., 94 Green St., Jamaica Plain 30, Mass. / JAmaica 2-8640 / *C 60
 Ultrasonic delay lines, ultrasonic test equipment / RMA Ss(4) Me(1950) Ic
- Argonne National Laboratory, P. O. Box 299, Lemont, Ill. / Clearwater 7-7711 / *C 59
 Maker of Avidac, Oracle, George, automatic digital computers and other computers, for own use and other government agencies / RGPa Ls(3000) Me(1943) DAIC
- Arma Division, American Bosch Arma Corp., Old Country Rd., Garden City, N.Y. / PIioneer 2-2000 / *C 60
 Analog to digital converters; digitalized, transistorized and miniaturized computers for application in ships, manned aircraft, missiles and ground environment / RMSa Ls(5000) Le(1919) DAIC
- Armour Research Foundation of Illinois Inst. of Technology, 10 W. 35th St., Chicago 16, Ill. / CALumet 5-9600 / *C 60
 Univac 1105 research computation facility, computer applications and operations research, information system studies, mathematical programming, design and development of digital systems / RCPa Ls(1350) Me(1937) DAIScC
- Arnhold Ceramics Inc., One East 57th St., New York 22, N.Y. / PLaza 5-8213 / *C 60
 Long-life, high-stability, carbon-film resistors; high speed compacting presses for memory cores / Sa Ss(6) Me(1940) Ic
- THE ARNOLD ENGINEERING CO.,** Railroad Ave., and West St., Marengo, Ill. / (Chicago) ANdover 3-6300 / *C 60
 Permanent magnets cast and sintered; magnetic cores; high permeability tape wound cores; tape wound bobbin cores; powder cores; special magnetic materials / RMSCa Ls(625) Me(1936) Ic
 Robert M. Arnold, Pres. / Charles S. Brand, V.P. and Chief Engineer
- Assembly Producers, Inc. 75 Wilson Mills Rd., Chesterland, Ohio / HA 3-3131 / *C 60
 Contact meter relays, panel meters, "packaged controls," special electronic controls, electrically actuated controls, automatic control equipment, analog to digital converters / RMSCa Ms(300) Me(1945) DACc
- Atlas Precision Products Co., 3801 Castor Avenue, Philadelphia 24, Pa. / JEFFerson 5-3700 / *C 59
 Mechanical analog computers for fire control, radar, etc.; geared mechanisms, servos, etc.; analog-to-digital converters, sub-assemblies; precision gears, differentials, bearings / RMSa Ms(200) Me(1929) AIC
- Audio Devices, Inc., 444 Madison Ave., New York 22, N.Y. / PLaza 1-6640 / *C 59
 Magnetic recording tape, guaranteed defect-free for use in computers; telemetry, seismography, automation; silicon rectifiers / RMSa Ms(150) Me(1937) Ic
- Audio Devices, Inc., Rectifier Div., 620 E. Dyer Rd., Santa Ana, Calif. / KImberly 5-8241 / *C 59
 Silicon rectifiers / RMSa Ms(100) Se(1957) Ic
- Audio Instrument Co., Inc., 135 West 14 St., New York 11 N.Y. / ORegon 5-7820 / *C 60
 Analog time delay devices; magnetic, logarithmic converters / RMSa Ss(9) Se(1949) Ic
- Auerbach Electronics Corp., 1634 Arch St., Philadelphia 3, Pa. / LOcust 3-7737 / *C 60
 Engineering services in information technology: computers, logic and circuit design, program design, comparison studies; information systems, on-line data processing, digital communications, radar data systems; mathematical analysis, operations research, physical systems, reliability simulation, noise studies / RCPa Ss(40) Se(1957) DAIC
- The Austin Co., Special Devices Division, 76 9th Ave., New York 11, N.Y. — no response '59, '60
- Automatic Control, Reinhold Publishing Corp., 430 Park Ave., New York 22, N.Y. / MU 8-8600 / *C 60
 Monthly engineering and scientific magazine serving control technology as applied to industrial and military systems work / Ss(20) Se(1954) DAsCMc
- AUTOMATIC ELECTRIC COMPANY, Northlake, Ill.** / Fillmore 5-7111 / *C 60
 Rotary stepping switches and relays for industrial control, control systems and computers / RMSa Ls(8500) Le(1891) Ic
 R. P. Liepole, VP, Ind. Sales / V. E. James, Dir., Control Equipment Sales
- Automatic Office Consultant, Inc., 5057 Woodward Ave., Detroit 2, Mich. — no response '60
- Automatic Research & Design Associates — see A R & D A
- Automation Consultants, Inc., 155 Fifth Ave., New York 10, N.Y. / OR 4-6660 / *C 60
 Consulting services. "Office Automation" looseleaf handbooks with updating services / RCa Ss(12) Se(1953) DACMc
- Automation Controls Corp., 5737 West 98 St., Los Angeles 45, Calif. / SPring 6-0420 / *C 59
 Automatic control equipment; relays / RMSa Ss(20) Se(1957) ICc
- Automation Engineers, 344 W. State St., Trenton 8, N.J. / OWen 5-8509 / *C 60
 Consultants in automatic control machinery, automatic materials handling equipment, and information handling equipment. Designers of specialized data processing equipment, including office machinery coupling mechanisms. Analysis of automation economics; supervision of installations / RCa Ss(20) Me(1942) ICMc

Automation Management Inc., 25 Brigham St., Westboro, 95, Mass. / FO 6-5377 / *C 60

Industrial computer and recorder that indicates level of efficiency of an operation, system that reports the efficiency at one location of all the machines in the factory. Office and factory automation consulting / RMCa Ss(3) Se(1955) C1c

Automation Progress, 9 Eden St., London N.W. 1, England / Euston 5911 / *C 58

Technical magazine on all aspects of automatic production and control.

AUTONETICS, A DIV. OF NORTH AMERICAN AVIATION, INC., 9150 E. Imperial Hwy., Downey, Calif. / SPruce 3-2233 / *C 60

Inertial navigation systems, armament and flight control systems, automatic checkout equipment, analog and digital computers, data recording equipment, differential analyzers, armament control equipment, magnetic tape recorders, and radars / RMSa Ls(16,000) Se(1955) DA1c

John R. Moore, Pres. / S. W. Horrocks, Exec. VP Avco Mfg. Corp., Research and Advanced Development Div., Wilmington, Mass. — no response '59, '60

Avion Div., ACF Industries — now known as ACF Electronics Div., Riverdale, Md., and Paramus, N.J.

B

Babcock Radio Engineering Inc., 1640 Monrovia Ave., Costa Mesa, Calif. / Liberty 8-7705 / *C 60

Signal generators, receivers, transmitters, coders and decoders / RMSa Ls(550) Me(1947) 1c

Bailey Meter Company, 1050 Ivanhoe Rd., Cleveland 10, Ohio / GL 1-4600 / *C 60

Automatic control equipment, special purpose computers, data processing equipment, scanners / RMSa Ls(1000) Le(1916) C1c

Baird-Atomic, Inc., 33 University Rd., Cambridge 38, Mass. / UNiversity 4-7420 / *C 60

Spectrochemical, electronic and radioisotope instrumentation for analysis and control; electronic tubes, proportional counters, electronic counters, sorting and counting controls, scientific instruments, analog devices, servo-mechanisms, transistors, print readers / RMSa Ms(500) Me(1938) 1c

Ballastran Corp., 1701 N. Calhoun St., Fort Wayne 7, Ind. / Eastbrook 2285 / *C 59

Pulse transformers, specialty transformers / RMSCa Ms(125) Me(1946) 1c

Bank of America National Trust and Savings Association, Controllers Dept., Systems and Equipment Research Section, 500 Howard St., San Francisco, Calif. — no response '58, '59

Battelle Memorial Institute, 505 King Ave., Columbus 1, Ohio / AX 9-3191 / *C 59

Research and development in all fields of the physical sciences; computer programming assistance; digital computing and consulting services / RCPa Ls (2500) Me(1929) DA1c

Beckman Instruments, Inc., Berkeley Div., 2200 Wright Ave., Richmond 3, Calif. / LA 6-7730 / *C 60

General purpose .01% analog computers including operational amplifiers, computing resistors and capacitors in oven, electronic multipliers and re-

solvers, arbitrary function generators, patchbags and patchboard and digital control systems. / RMSa Ms(400) Me(1946) Ac

Beckman Instruments, Inc., Scientific and Process Instruments Div., 2500 Fullerton Rd., Fullerton, Calif. / *C 60

123 Data processing system which collects operating data, converts to meaningful numbers, and is used for study or immediate use in process control. Continuous process industries and power utilities use the 123 to collect data in pilot plants and as a link in complete process computer control systems. / RMSa Dc

Beckman Instruments Inc., Systems Div. — name changed to Beckman Systems Div., which see

Beckman Systems Div., 325 N. Muller Ave., Anaheim, Calif. / PRospect 4-5430 / *C60

High-speed, multi-channel electronic data processing systems; data reduction and logging systems; systems components; d-c amplifiers; analog-to-digital conversion systems; telemetry systems; missile checkout systems; data translation systems; military study contracts in areas of instrumentation and data processing / RMSGa Ms(350) Me(1935, corporation; 1956, division) DA1c

Bell Aircraft Corp., Niagara Frontier Div., P. O. Box 1, Buffalo 5, N.Y. / Niagara Falls, BUtler 5-7851 / *C 60

Data processing center — IBM 704 with peripheral equipment / RCa Ls(3000) Me(1935) DAc

Bell Punch Co., Ltd., 39 St. James St., London, S.W. 1, England — no response '59, '60

Bendix Aviation Corp. — name changed to The Bendix Corporation, which see

BENDIX CORP., BENDIX COMPUTER DIV., 5630 Arbor Vitae St., Los Angeles 45, Calif. / SPring 6-2220 / *C 60

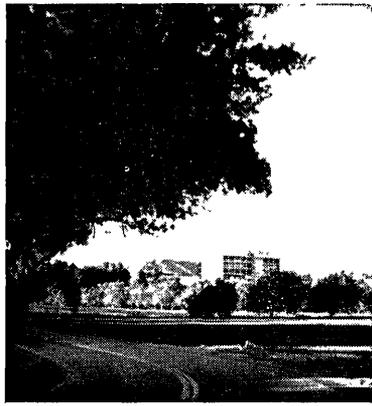
G-15 general purpose digital computer and accessories, including small-size low-cost digital differential analyzer, punched card adapters, magnetic tape recorders and readers, plotters, special paper tape readers, and other input/output devices. G-20 high speed data processing system and accessories, including control buffers, memory modules, magnetic and paper tape units, high speed line printers and other input/output devices. Also 3-axis flight-control system simulator. Contract systems development work / RMSa(Ls(630) Se(1952) DIc M. W. Horrell, Gen'l. Mgr. / O. P. Staderman, Dir. of Mktg.

Bendix Corp., Bendix-Pacific Division, 7250 Laurel Canyon, No. Hollywood, Calif. / POplar 5-1280 / *C 60

Data logging; supervisory control and telemetering systems, digital communications systems; data processing systems; analog-digital converters; input transducers with digital outputs for temperature, pressure, time and date, speed, direction and frequency; digital conversion and buffering equipment; digital building blocks / RMSa Ls(3550) Le(1915, company; 1937, this division) DC1c

Bendix Corp., Eclipse-Pioneer Div., Teterboro, N.J. / ATlas 8-2000 / *C 60

Synchros, servo motors and motor generators, gyros, and related components for servomechanisms; mag-



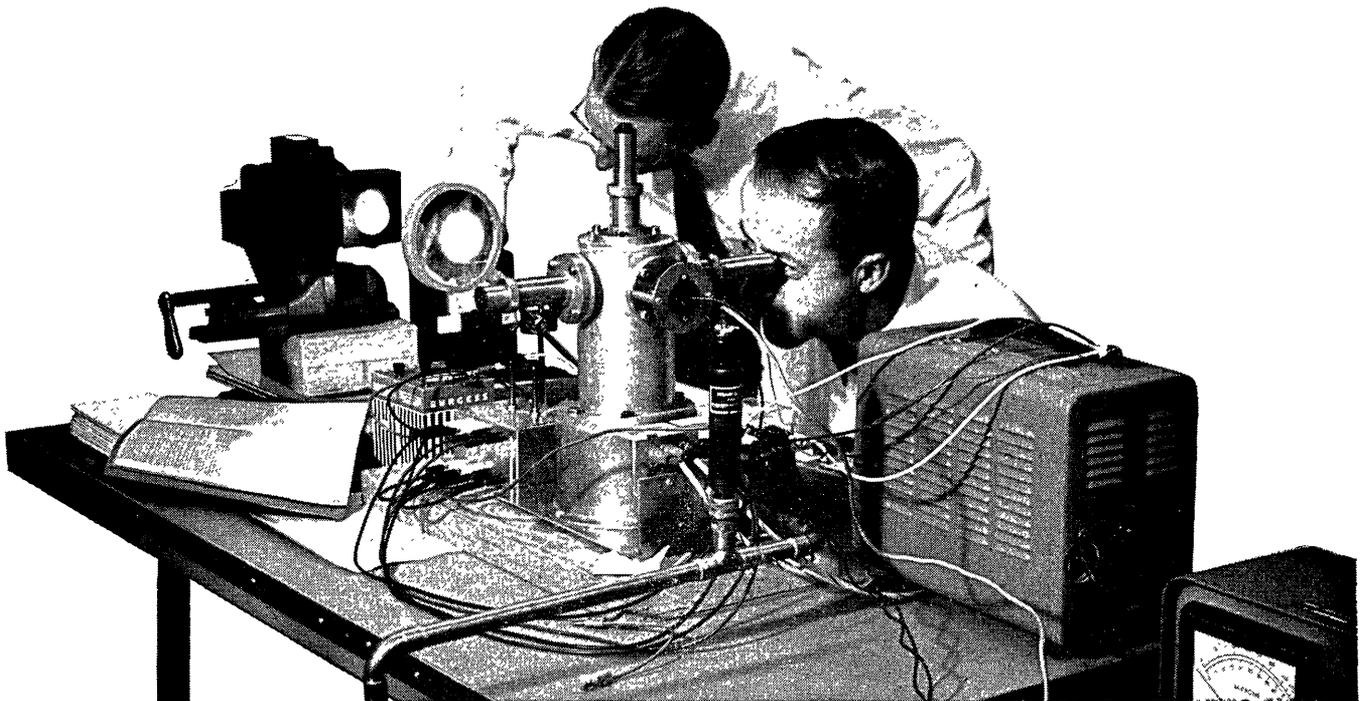
At The Ramo-Wooldridge Laboratories... integrated programs of research & development of electronic systems and components.

The new Ramo-Wooldridge Laboratories in Canoga Park provide an environment for creative work in an academic setting. Here, scientists and engineers seek solutions to the technological problems of today. The Ramo-Wooldridge research and development philosophy places major emphasis on the imaginative contributions of the members of the technical staff. ■ There are outstanding opportunities for scientists and engineers. Write Dr. Richard C. Potter, Head, Technical Staff Development, Department 12-F.



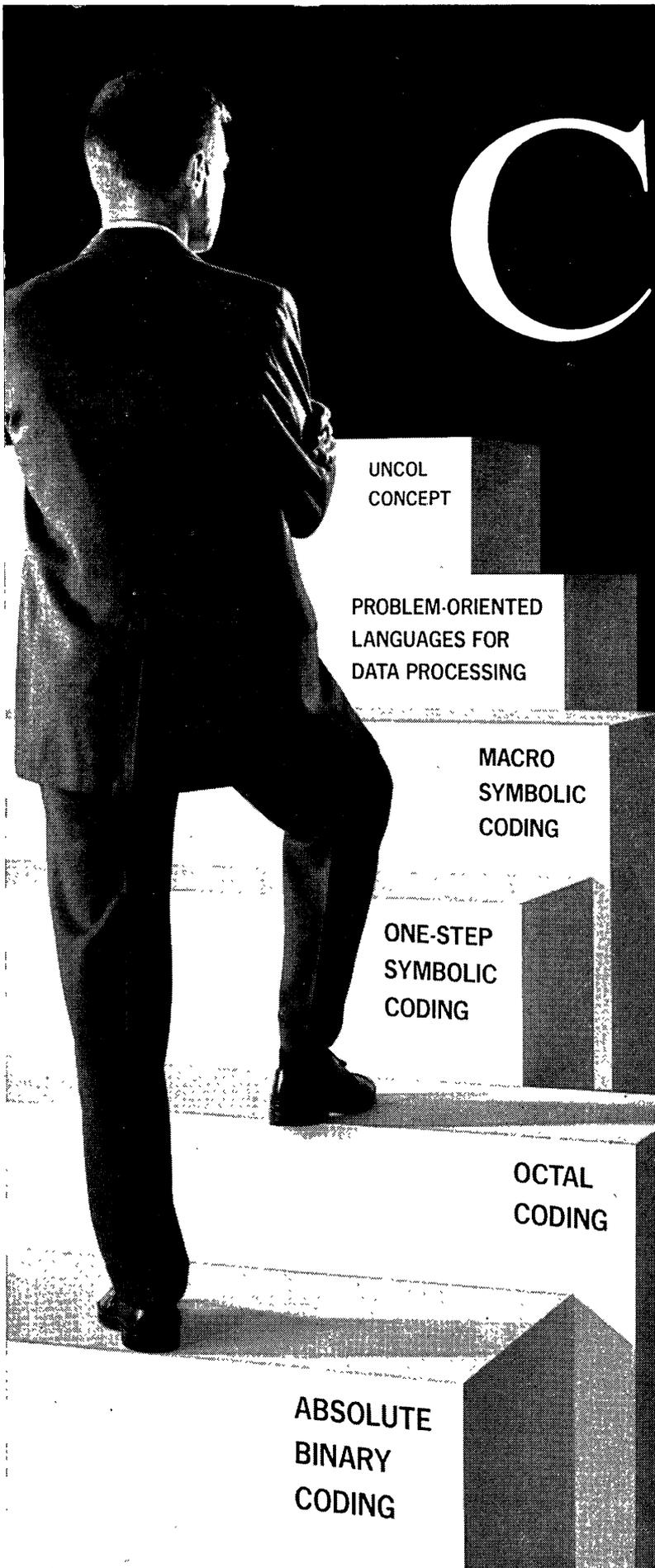
THE RAMO-WOOLDRIDGE LABORATORIES

A DIVISION OF THOMPSON RAMO WOOLDRIDGE INC.
8433 FALLBROOK AVENUE, CANOGA PARK, CALIFORNIA



An electron device permits scientists to study the behavior of charged dust particles held in suspension.

- netic amplifiers, automatic controls, analog-to-digital converters, mechanical and electronic integrators, resolvers / RMSa Ls(10,000) Le(1916) DAic
- BENDIX CORP., RESEARCH LABORATORIES DIVISION**, P. O. Box 5115, Detroit, 35, Mich. / **KENwood** 7-3300 / *C 60
 Research in digital and analog and in techniques combining them / RCa Ls(600) Le(1929) DAC
 Dr. G. A. Rosselot, Ass't. Gen. Mgr. / Dr. E. C. Johnson, Head Com. Dev. Dept.
- Benge Associates**, McIntyre Bldg., Spruce and College Sts., Asheville, N.C. / ALpine 2-0852 / *C 59
 Management consultants; applications of electronic data processing to office procedures; costs, analysis of clerical routines leading to programming / RCa Ss(6) Me(1939) Cc
- Benson-Lehner Corp.**, 1860 Franklin St., Santa Monica, Calif. / EXbrook 3-9921 / *C 60
 Data reduction, handling, and translating equipment: record readers (oscillographic, film, etc.), data storage and retrieval machines; data display devices including line drawing plotters, point & symbol plotters, high precision digital plotters, analog plotters; special readers including map & blue print readers, digital microscopes & comparators; shaft rotation-to-digital converters; inventory & memory systems; electrically controlled typewriters; photo instrument equipment including high speed cameras, tracking & strike cameras, take-off cameras and associated equipment / RMSCa Ms(240) Se(1950) DAC
- EDMUND C. BERKELEY AND ASSOCIATES**, 815 Washington St., Newtonville 60, Mass. / DEcatur 2-5453 or 2-3928 / *C 60
 Courses by mail in automatic computing machinery, mathematics, and other scientific subjects / PCa Ss(3) Se(1948) Dc (affiliated with Berkeley Enterprises, Inc.)
- BERKELEY ENTERPRISES, INC.**, 815 Washington St., Newtonville 60, Mass. / DEcatur 2-5453 or 2-3928 / *C 60
 Small robots; robot show-stoppers; Relay Moe (tittat-toe machine). Electric brain construction kit for educational purposes, Brainiac, Geniac, Tyniac. Publisher of "Computers and Automation" and other publications / RMSa Ss(6) Se(1954) Dc (Affiliated with Edmund C. Berkeley & Associates) / Edmund C. Berkeley, Pres.
- Birkbeck College**, Dept. of Numerical Automation, UNiversity of London, Malet St., London W.C.I., England / LANgham 7941 / *C 60
 Digital and analog computers, machine translation of language, input-output numerical analysis, spoken word recognition, simulation of intelligent behavior / RCa Ss(20) Me(1946) DAic
- B.J. Electronics**, Borg-Warner Corp. — now known as Borg-Warner Controls, which see
- Booz, Allen and Hamilton**, 135 South LaSalle St., Chicago 3, Ill. and other cities / FINancial 6-1900 (each city) / *C 60
 Management consultants; technical service in applications of electronic and automatic data processing to management control systems in business, indus-
- try, and government / Ca Ls(over 500) Le(1914) DAICc
- Booz Allen Applied Research, Inc.**, 430 Green Bay Rd., Kenilworth, Ill. (also Dayton, Ohio, and Bethesda, Md.) / ALpine 6-0270 / *C 59
 Technical consulting services in operations research and the following fields of research and development: reliability, applied statistics, electromechanics, instrumentation, systems analysis, electronics and communications, physics, nuclear technology, applied chemistry, meteorology, and biochemistry / RCa Ms(75) Se(1955) Ic
- George W. Borg Corp.** — name changed to Amphenol-Borg Electronics Corp., which see
- Borg-Warner Controls**, Div. of Borg-Warner Corp. (formerly Northam Electronics, Inc.) 3300 Newport Blvd., Santa Ana, Calif. / KImberly 5-5581 / *C 60
 RF signal generators, RF watt meters, vibrating wire transducer, accelerometer; complete line of nuclear monitoring instrumentation, environmental testing devices / RMSCa Ls(500) Me(1940) Ic
- Bourns, Inc.**, 6135 Magnolia Ave., Riverside, Calif. / OVERland 4-1700 / *C 60
 Trimpot® leadscrew actuated potentiometers, linear motion potentiometers, pressure transducers, angular position transducers, accelerometers / RMSa Ls(950) Me(1946) Ic
- Bowles, Andrews & Towne, Inc.**, 1389 Peachtree St., NE, Atlanta 9, Ga. — no response '59, '60
- BOWMAR INSTRUMENT CORPORATION**, 8000 Bluffton Rd., Fort Wayne, Indiana / SHerwood 3121 / *C 60
 Precision speed reducers and gear heads, precision servo motor gear heads, precision electromechanical components, precision electrical and mechanical counters including navigational BuOrd Angle, internal pinion type counters; designing of foregoing and of electromechanical servomechanisms and electromechanical computer subsystems, aircraft indicators and electromechanical components, computers / RMSa Ms(450) Se(1951) Ic
 Edward A. White, Pres. / George F. McCarthy, Gen. Sales Mgr.
- Bowser, Inc.**, 33 No. LaSalle St., Chicago, Ill. — no response '59, '60
- William Brand** — Rex Division, American Enka Corp., 31 Sudbury Rd., Concord, Mass. / EMerson 9-9630 / *C 60
 Rex-Array photorectifiers, wire, cable, electrical insulating materials / RMSa Ls(850) Le(1920) Ic
- Brender & Brender, Inc.**, 3911 Newberry, Wayne, Mich. / PArkway 2-0515 / *C 59
 Digital computer service: data processing and programming for civil engineers using LGP-30 / RCPa Ss ?e Dc
- Richard D. Brew & Co., Inc.**, 90 Airport Rd., Concord, N.H. / CA 5-6605 / *C 60
 Lumped constant, distributed constant, and ultrasonic delay lines / RMa Ms(160) Me(1946) Ic
- The Bristol Company**, P.O. Box 1790 CAG, Waterbury 20, Conn. / PLaza 6-4451 / *C 59
 Electronic and potentiometric recording, indicating, controlling, signalling; alarm and telemetering instruments for standard and special functions; com-



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programming progress?*

Are you currently in a position to move upward and forward into newer, more interesting levels of programming? Or is your topmost step still well below the height of the art?

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The extension of SDC's programming activities into new areas of large computer-centered control system development has created openings for Programmers at several levels of experience, including senior status. Please send your inquiry to D. B. Price, SDC, 2406 Colorado Avenue, Santa Monica, California.

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 "SP-127 ANCHOR An Algorithm for Analysis of Algebraic and Logical Expressions," a paper by Howard Manelowitz of SDC's staff is available upon request. Send request to Mr. Price at SDC.



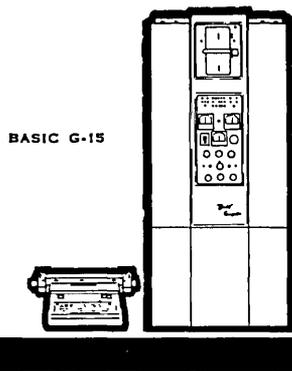
**SYSTEM DEVELOPMENT
CORPORATION**

Santa Monica, California • Lodi, New Jersey

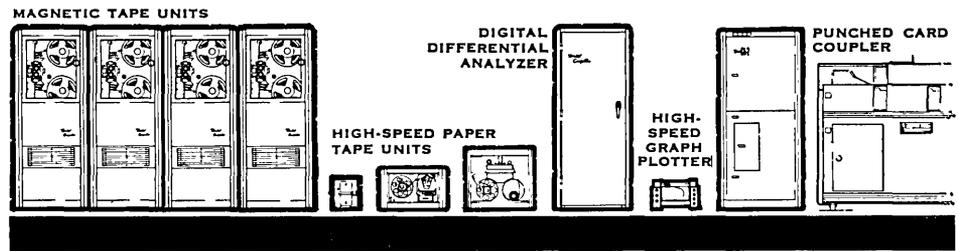
- ponents including choppers, high speed relays, capsular elements, remote positioners, pressure switches and transducers; miniature standard and special socket screws; recording papers / RMSa Ls(over 1000) Le(1889) Ic
- Broadview Research Corp., 1811 Trousdale Drive, Burlingame, Calif. / DLamond 4-7625 / *C 60
Data systems and intelligence systems analysis; scientific and business programming services; assembly routines and compilers; systems simulation; operations research techniques / RCPa Ms(100) Se(1951) DAic
- Brown University, Computing Center, Div. of Applied Mathematics, 182 George St., Providence 12, R.I. / UN 1-2900 / *C 60
Computing service, instruction, research; IBM 650 and auxiliary equipment; an IBM 7070 system is on order. / RCPa Ss(4) Se(1956) Ic
- Brush Instruments, Div. of Clevite Corp., 37th & Perkins Ave., Cleveland 14, Ohio / ENdicott 1-3315 / *C 59
Direct writing oscillographs and amplifiers for recording systems / RMSa Ms(400) Me(1930) Cc
- Bryant Computer Products Division, a division of Bryant Chucking Grinder Co., Box 620, Springfield, Vermont / TURner 5-2141 / *C 60
Magnetic memory systems with speeds to 200,000 RPM, capacities to 120 million bits; magnetic drum, disc and storage systems; precision electromechanical devices, high speed motors, magnetic reading and recording heads; internal grinders; computer components / RMSa Ls(650) Le(1909) Ic
- Bull S. A. Compagnie Des Machines, 94 Avenue Gambetta, Paris 20, France / MEN 81-58 / *C 59
Punch card machines. Data processing equipment. Scientific GAMMA computers / RMSa Ls(8000) Me(1931) Dc
- J. H. Bunnell & Co., 81 Prospect St., Brooklyn 1, N.Y. / ULster 8-0100 / *C 60
Tape winders, punched tape readers / RMSa Ms(50) Le(1878) Ic
- Bureau of the Census, Washington 25, D.C. / *C 59
Statistical data processing by electronic computing system (Univacs), by commercial punch-card equipment, and by special machines designed and built for own use / RCPGa Ms(400 in electronic and mechanical processing primary organization units) Le(1890 in punch card field) Dc
- Burlingame Associates, Ltd., 510 So. Fulton Ave., Mt. Vernon, N.Y. / MO 4-7530 / *C 60
Analog computers, computing accessories, computing amplifiers, computer power supplies, analog recorders, digital voltmeters, analog-digital converters, high-speed digital display / Sa Ss(35) Le(1928) ADic
- Burndy Corp., Omaton Div., Richards Ave., Norwalk, Conn. / TEmple 8-4711 / *C 59
Connectors, crimp-type; terminal blocks, crimp-type / RMSa Ls(600) Le(1924) Ic
- John H. Burns & Associates, 345 Mt. Lebanon Blvd., Pittsburgh 34, Pa.— no response '60
- Burr and Company, P.O. Box 122, Wellesley Hills 81, Mass. / *C 60
Equity capital for small firms in the digital computer industry / Ss(2) Se(1959)
- BURROUGHS CORPORATION, 6071 Second Ave., Detroit 32, Mich. / TRinity 5-2260 / *C 60
Burroughs 205 and 220 electronic data processing systems and digital computer components; Burroughs E101 desk-size electronic digital computer; Cardatron punched card input-output system; card-to-paper-tape conversion equipment; Datafile magnetic tape storage system; digital computing service; tape handlers, keyboards, magnetic tape filing systems and tape recorders, paper tape punches. Adding machines, bookkeeping machines, etc. / RMSCa Ls(36,000) Le(1885) Dlc
Ken Bement, V.P. Marketing / E. S. McCollister, Ass't. V.P. Marketing
- BURROUGHS CORP., ELECTRO DATA DIV., 460 Sierra Madre Villa, Pasadena, Calif.— changed to BURROUGHS CORPORATION, 6071 Second Ave., Detroit 32, Mich.
- Burroughs Corporation, Electronic Tube Div., Mt. Bethel Rd., Mt. Bethel, N.J., P.O. Box 1226, Plainfield, N.J. / PL7-5000 / *C 60
Beam switching tubes, NIXIE® indicator tubes, PIXIE position indicator tubes, BEAM-X switch, TRIXIE drive module for NIXIE pulse control instruments, electronic counters, and visual output devices / MSa Ms(135) Se(1954) Ic
- Business Electronics, Inc., 420 Market St., San Francisco 11, Calif. / DOuglas 2-0894 / *C 59
Home study courses in programming for computers, and applications of business problems to computers / CSa Ss(7) Se(1955) Dlc

C

- California Technical Industries Div. of Textron Inc., 1421 Old County Rd., Belmont, Calif. / LYtell 3-8466 / *C 60
Automatic test equipment, cable assemblies, computer test equipment, paper tape readers, paper tape punches, paper tape duplicators, punched card readers / RMSa Ms(125) Me(1946) Ic
- CALVERT ELECTRONICS, INC., 536 Broadway, New York 12, N.Y. / CANal 6-7400 / *C 60
Radio and electronic tubes; germanium and silicon transistors. Wholesale distributors / RSa Ss(25) Me(1949) Ic
Murray Fudim, Pres. / Benjamin Fudim, Vice Pres.
- Cambridge Thermionic Corp., 445 Concord Ave., Cambridge 38, Mass. / TRowbridge 6-2800 / *C 60
Components, miniature computer modules, including flip-flops, level triggers, inverters, emitter followers, gates / MSa Ms(250) Me(1941) Ic
- Cambridge University, Mathematical Laboratory— see University of Cambridge, University Mathematical Laboratory
- Canadian Applied Research Ltd., 750 Lawrence Ave. W., Toronto, Ont., Can. / RUssell 1-1571 / *C 59
Instrumentation equipment using electronics, mechanics, optics, for application in fields of aviation, photography, aerial survey; magnetic amplifiers, cable assemblies, data recording cameras, analog computers, computer test equipment, automatic controls, fire control equipment, geophysical apparatus,



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Bendix Computer Division
DEPT. D-21 LOS ANGELES 45, CALIF.



- mechanical integrators, synchros, tachometers / RMSCa Ms(600) Se(1951) ACIc
- Canadian Westinghouse Co., Ltd., P.O. Box 510, Hamilton, Ontario, Canada / JAcKson 8-8811 / *C 60
Analog memory, for solving problems concerned with the simulation of transport delays and problems requiring information storage in analog form / RMSa Ls(1000) Se(1951) AIc
- Canning, Sisson & Assoc., Inc., 1140 S. Robertson Blvd., Los Angeles 35, Calif. / BRadshaw 2-8425 / *C 60
Publishers of "Data Processing Digest" / Sa Ss(5) Se(1954) Ic
- Carbide and Carbon Chemicals Company-AEC, Numerical Analysis Department, P.O. Box P, Oak Ridge, Tenn. / LD-220, X8671 / *C
Numerical analysis using digital computers / RGa Ss(35) Se(1948) Dc
- Carnegie Institute of Technology, Schenley Park, Pittsburgh 13, Pa. / MAFlower 1-2600 — no response '59, '60
- Carstedt Research, Inc., 2501 E. 68th St., Long Beach 5, Calif. / MEtcalF 0-5821 / *C 59
Magnetic cores / MSa Ms(75) Se(1951) Ic
- CBS Electronics, A Div. of Columbia Broadcasting System, Inc., 100 Endicott St., Danvers, Mass. / SPring 4-2360 / *C 60
Electron tubes, semiconductors (transistors and diodes), microelectronics (microcircuits and memory cores) / RMSCa Ls(4212) Le(1921) Ic
- CBS-Hytron, a Div. of Columbia Broadcasting System, Inc. — name changed to CBS Electronics, a Div. of Columbia Broadcasting Systems, Inc., which see
- C-E-I-R, INC. (formerly Corporation for Economic and Industrial Research), 1200 Jefferson Davis Highway, Arlington 2, Va. / OTis 4-6377 (New York Office: 370 Lexington Ave., Tel: MURrayhill 7-5736; Southwest Regional Office: 6422 Fannin Street, Houston, Texas, Tel: JAcKson 6-2665; Los Angeles Office: Sunset Tower West, 8400 Sunset Boulevard, Los Angeles, Calif.; London Office: 11 Redcliffe Square, London S. W. 10, England) / *C 60
IBM 704/709/7090 Computers and full line of peripheral data processing equipment available on an hourly rate basis. Computer Programming, Operations Research, Mathematical Analysis and Structuring, Econometrics, Linear Programming, Systems Analysis, Problem Formulation, Sampling and Statistical Design, Management Engineering, Space Technology and Weapons Systems, International Economics and Marketing Research / RCPa Ms(300) Se(1952) Dc
Dr. Herbert W. Robinson, Pres. / Dr. Herbert R. J. Grosch, Dir., Corp. Programs & Planning
- Celco, 70 Island Ave., Mahwah, N.J. / DAVis 7-1123 / *C 60
Deflection yokes, magnetic amplifiers, transformers / RM(development)a Ms(125) Se(1950) Ic
- Centralab (The Electronics Div. of Globe Union Inc.), 900 E. Keefe Ave., Milwaukee, Wis. / WO 2-9200 / *C 60
Electronic components: switches, capacitors, packaged electronic circuits, computer circuits (plug-in, potted, printed), transistor amplifiers, variable resistors / Sa Ls(5000) Le(1922) Ic
- Century Electronics & Instruments, Inc., 1333 N. Utica St., Tulsa 10, Okla. / LU 4-7111 / *C 60
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 / RMa Ms(198) Me(1945) Ic / *C 60
- C G Electronics Corp., 15000 Central, E., Albuquerque, New Mexico / AXtel 9-7601
Digital data acquisition and reduction systems, data reduction services, digital telemetry systems. Plug-in, potted, printed circuits, analog and digital computers; digital computing services; consulting services; geophysical apparatus, information retrieval devices, input-output devices, electronic integrators, inventory systems, memory systems, translating equipment, visual output devices / RMSCa Ms(110) Se(1954) DAic
- CGS Laboratories, Inc., Routes 7 and 35, Ridgefield, Conn. / IDlewood 8-6571 / *C 59
TRAK ® Morse-to-Teletypewriter Code Converters, TWX-to-CCIT Translators / RMSa Ms(160) Me(1947) Ic
- Chadwick-Helmuth Co., 472 E. Duarte Rd., Monrovia, Calif. / ELliot 8-4567 / *C 60
Electronic multiplier, high speed, high accuracy, for both computer and instrumentation applications, "Sweep-Sync," "Pulse Camera" / RMSCa Ss(10) Se(1953) Ac
- Chrono-log Corp., P.O. Box 4587, Philadelphia 31, Pa. / LOcust 7-5178 / *C 60
Real-time reference systems for digital computers, including time and date. Electro-mechanical devices in the digital field; digital clocks, calendars, displays; programming devices, mechanical counters, input-output devices, visual output devices, digital print out systems / MSa Ss(8) Se(1956) Dc
- Cinch Manufacturing Corp., 1026 S. Homan Avenue. Chicago 24, Ill. / — / *C 59
Components for computers; tube sockets, connectors, printed wiring boards, terminal boards, etc. / RMSCa Ls(1400) Le(1924) Ic
- Circuit Engineering, 102 Ellis Rd., Weston 93, Mass. / TWInbrook 4-6071 / *C 60
Consultants. Transistor, magnetic, electronic, conductive, and other information handling circuits / Ca Ss Se(1954) Ic
- C. P. CLARE & CO., 3101 W. Pratt Blvd., Chicago 45, Ill. / AM 2-7700 / *C 60
Mercury-wetted contact relays, sealed contact reed relays, Clare type J relays and stepping switches for the electronic and computer industry / RMSa Ls(1400) Me(1937) Ic
- CLARKSON PRESS INC., 189 Van Rensselaer St., Buffalo 10, N.Y. / MA 7500 / *C 60
GC Data Processing Forms, GC panelLOGIC, GC Forms-handling equipment / RMSa Ms(125) Me(1947) Ic
Bruce C. Sterns, V. P. / William S. Call, Gen'l Sales Mgr.



adding and posting machines with solenoid unit

The entire line of "addo-x" 10-key electric adding machines and posting machines is available with a solenoid input attachment, built onto the right-hand side of the machine [dimensions: 4" high, 2" wide, 4" deep]. The solenoids are attached to the key-stem levers of the keyboard and thus leaves the keyboard completely open for manual operation whenever the remote control solenoid unit is not in use.

The solenoids are operated on 24 or 48 volt DC with a power consumption of 7 watts. Input speed is 12 digits per second with a pulse duration of 30 m.s. The solenoid control of the keyboard is based on series-entry of the digit impulses, most significant digit first. The following function controls on the adding machine are solenoid operated: Plus-motor, Minus-motor, Direct Sub Total, Direct Total, Non-Add. These functions are picked after completion of keyboard entry, and will cause the selected number [amount] to be printed on tape [least significant digit to the extreme right] and added or subtracted into an accumulating

register if and when required [according to function-control solenoid picked].

"addo-x" solenoid-input adding and posting machines provide a centrally located printed record of "readings" from remotely placed measuring instruments such as pressure, and temperature gauges; volt, ampere, frequency and watt meters; speedometers, production meters, scales, flow meters and numerous other types of instruments equipped with digital readout device and impulse serializer.

In particular, the "addo-x" solenoid-input shuttle carriage and posting machines will provide a printed record in two or more separate columns, e.g. and identifying number [time of day, location number or batch number] in one column and [after automatic carriage tabulation] the instrument "reading" in a second column [which may or may not be accumulated in separate register].

"addo-x inc"——300 Park Avenue——New York 22, New York

- Clarostat Mfg. Co., Inc., Dover, N.H. / SHERWOOD 2-1120 / *C 59
Potentiometers, resistors, switches (electronic components) / RMSCa Ls(1400) Le(1921) Ic
- CLARY CORPORATION, 408 Junipero St., San Gabriel, Calif. / CU 3-2724 / *C 60
General purpose digital computer, data printers, programmable print-punch, hi-speed printers / MSa Ls(1200) Me(1939) DIC
Hugh L. Clary, Pres. / W. G. Zaenglein, Exec. V. P.
- Clevite Transistor Products, 241 Crescent St., Waltham 54, Mass. / TWinbrook 4-9330 / *C 60
Semiconductor devices, power germanium transistors, cartridge diodes (plastic), subminiature glass diodes (germanium, silicon) / RMSa Ls(1500) Se(1952) Ic
- Clifton Precision Products Co., Inc., Marple at Broadway, Clifton Heights, Pa. / MADison 6-2101 / *C 59
Synchros, servo motors, resolvers, air navigation computers, digital-to-analog converters, analog-to-digital converters / RMSCa Ls(1000) Me(1946) DAIC
- Coilcraft, Inc., Cary, Ill. — no response '59, '60
- Coleman Engineering Co., 3500 Torrance Blvd., Torrance, Calif. — no response '59, '60
- Collins Radio Co., Western Div., 2700 W. Olive Ave., Burbank, Calif. / THornwall 5-1751 / *C 60
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 / RMSa Ls(1000) Me(1950) DIC
- Colorado Research Corp., Broomfield, Colorado / (Denver) HARRison 9-3501 / *C 60
Analog computers, angle encoders, television picture digitizers, microwave refractometers, printed circuit subassemblies, digital data processing equipment to order / RMSa Ms(65) Se(1956) DAIC
- Columbia Broadcasting System, Inc. — SEE CBS Electronics
- Columbia Technical Corporation, 61-02 31st Ave., Woodside 77, N.Y. / AS 8-7401 / *C 60
Delay lines, protective coatings, salt spray resistant / RMSCa Ms(50) (?)e Ic
- Comar Electric Co., 3349 Addison St., Chicago 18, Ill. / JUniper 8-2410 / *C 60
Relays, including hermetically sealed and sub-miniature, solenoids, coils and switches / MSa Ms(430) Me(1942) Ic
- Commonwealth Scientific and Industrial Organization, Radiophysics Division, Sydney, New South Wales, Australia
Maker of CSIRO Mark I electronic digital computer of Inst. for Advanced Study type / RCGPa DAC
- Comptometer Corp., 5600 W. Jarvis Ave., Chicago 48, Ill. / SPring 5-2400 / *C 60
Comptometer adding-calculating machines, Comptograph 10-key adding machines, ComptoTape data preparation machines, Electrowriter written communications equipment, telegraphic word counter, tape winding equipment, data conversion equipment / RMSCa Ls(1500) Le(1886) Ic
- COMPTRON CORP., 778 Pleasant St., Belmont 79, Mass. / IV 4-8954 / *C 59
Transistorized computer components; amplifiers, logical plug-in, printed circuits; consulting services; controls, electronic counters, power supplies, shift registers / RMCSa Ss(6) Se(1956) DIC
W. S. Macdonald, Pres. & Treas. / D. B. Macdonald, Clerk
- Computer Control Company, Inc., 983 Concord St., Framingham, Mass. (also Western Div., 2251 Barry Ave., Los Angeles 64, Calif.) / TRinity 5-6185 / *C 60
High-speed plug-in digital computer modules, special purpose digital data handling systems, computer language converters, random access magnetic core memories, stored program computers, encoding keyboard switches, contract assembly of electronic plug-in modules / RMSCa Ms(220) Se(1953) Ic
- Computer Engineering Associates, Inc., 350 No. Halstead St., Pasadena, Calif. / ELgin 5-7121 / *C 60
Direct analog computer / RMSCa Ss(45) Se(1952) Ac
- Computer Equipment Corp., 1931 Pontius Ave., Los Angeles 25, Calif. / GRanite 8-0464 / *C 59
Hybrid analog and digital systems, timing and quantizing equipment, recording millivoltmeters / RMa Ss(15) Se(1957) DAIC
- Computer Instruments Corp., 92 Madison Ave., Hempstead, L.I., N.Y. / IVanhoe 3-8200 / *C 59
Precision carbon film potentiometers and pressure transducers; precision switches / RMSa Ms(100) Se(1950) Ic
- Computer-Measurements Corp., 5528 Vineland Ave., N. Hollywood, Calif. — moved, address not known
- Computer Systems, Inc. (formerly Mid-Century Instrument Corp.), 611 Broadway, New York 12, N.Y. / SPring 7-4016 / *C 59
Precision analog computers, function generators, multipliers, resolvers, recorders, X-Y plotters, etc. / RMSa Ms(70) Se(1950) Ac
- COMPUTERS AND AUTOMATION, 815 Washington St., Newtonville 60, Mass. / DEcatur 2-5453 or 2-3928 / *C 60
Monthly computer and data processing magazine published by Berkeley Enterprises, Inc. / MSa Ss(6) Se(1951) Ic
Edmund C. Berkeley, Editor
- Computing Devices of Canada Ltd., Box 508, Ottawa 4, Ont. / TA 8-2711 / *C 60
Data reduction, digital computer sales (Bendix G15D) and computing service. Development and manufacture of airborne navigation systems / RMSCa Ls(650) Me(1948) DICc
- Condenser Products Div., New Haven Clock & Watch Co., 140 Hamilton St., New Haven, Conn. / SP 7-5411 / *C 59
Capacitors, power supplies, pulse forming networks / RMSa Me(350) Le(1870) Ic
- Consolidated Avionics Corp., a subsidiary of Consolidated Diesel Electric Corp., 800 Shames Drive, Westbury, L.I. N.Y. / EDgewood 4-8400 / *C 59
Power supplies, regulated power supplies, translating equipment, visual output devices, electrical converters, power frequency converters / RMSa Ls(100 this div., 1500 whole co.) Me(1942) DAIC

* The acceptance by business and industry of the Philco 2000 All-Transistor Data Processing System has created a number of significant advancement opportunities in our organization both at our new headquarters in suburban Philadelphia and at various key locations in other parts of the nation. You are invited to call, write or visit us to discuss your future in our growth organization.

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CONSOLIDATED CONTROLS CORP., 16 Durant Ave., Bethel, Conn. / Pioneer 3-6721 / *C 60

Magnetic amplifiers, analog to digital converters, magnetic storage and memory systems, automatic controls, digital automation, magnetic drums, switches, robots / RMSa Ms(225) Se(1957) DAICMc

J. F. Engelberger, Pres. / C. M. Colt, Sales Mgr.

Consolidated Electrodynamics Corp., 360 Sierra Madre Villa, Pasadena, Calif. / MUrray 1-8421 or SY 6-9381 / *C 60

Electronic instruments for measurement, analysis, and control; instrumentation systems for dynamic testing; magnetic amplifiers; automatic control equipment, printed circuits, automatic controls, analog to digital converters, digital and analog data-handling and conversion systems, (Sadie Millisadic, etc.), data processing and data recording equipment, reading and recording magnetic heads, information retrieval devices, input-output devices, regulated power supplies, magnetic tape readers, magnetic storage systems, tape handlers, magnetic tape filing systems and recorders, converter magnetic tape to punch card, telemetering systems, transducers, systems engineering / RMSa Ls(3000) Me(1937) DAc

Control Data Corp., 501 Park Ave., Minneapolis 15, Minn. / FEderal 9-0947 / *C 59

Digital computers, systems, and devices; gyros, accelerometers, magnetic amplifiers, guidance and communications systems; converters; data processing equipment; resolvers, synchros, translating equipment; visual output devices / RMSa Ms(350) Se(1957) DIc

Control Electronics Co., Inc., 10 Stepar Place, Huntington Station, L.I., N.Y. / HA 7-7961 / *C 59

Computer components; electromagnetic delay lines, lumped constant and distributed constant, fixed and variable, sonic delay lines, audio and high frequency filters. VHF-UHF frequency calibrator, direct reading phase angle meter. Electronic instruments, special power supplies / RMSa Ss(50) Se(1951) Ic

Control Instrument Co., 67 35th St., Brooklyn 32, New York — no response '59, '60

Control Switch Div., Controls Company of America, 4218 W. Lake St., Chicago 24, Ill. / VA 6-3100 / *C 60
Switches, lighted panel components, complete electromechanical sub-assemblies / MSa Ls(600) Se(1960 merger) IC

Convair, a Div. of General Dynamics Corp., Fort Worth, Tex., P.O. Box 748, Fort Worth 16, Tex. / PE 8-7311 / *C 60

Radar and electronic countermeasures simulators. Flight simulators with/without human factors environment. Analog computing support equipment, including patch board verifiers, electronic multipliers, and diode function generators. Special purpose digital computing systems, including input/output devices, real time coordinate rotation computer (CORDIC), and zing direct analogy passive element computer (DAEAC). Three axis flight table, real time and repetitive electronic differential analyzers, active element heat flow analyzer, and

IBM 704 with off-line peripheral equipment / RMSC (design)a Ls(700) Me(1942) DAc

Convair-Astronautics Electronics Dept., a Div. of General Dynamics, 5001 Kearny Villa Rd., (Box 1128, SD 12), San Diego 11, Calif. / BRowning 7-8900 / *C 60
High-speed automatic data-acquisition and interpretation systems. Special and general purpose analog computing systems and equipment, including photoformers; memories for functions of one and two variables; magnetic-tape memories. Special purpose digital equipment available for use, real time coordinate transformation, tape plot, format translators. Analog-computer test equipment, combined analog-digital simulations through addaverter. Computing services on IBM 7090 and 650 computers / RMSCa Ls(1800) Se(1957) Ic

Convair Electronics, a Div. of General Dynamics Corp., P.O. Box 1950, San Diego 12, Calif. / CYpress 6-6611 / *C 60

High-speed automatic data-acquisition and interpretation systems. Special purpose analog computing systems and equipment including photoformers; memories for functions of one and two variables; magnetic-tape memories. Special purpose digital equipment, real time coordinate transformation computers, tape-to-plot systems, format translators. Analog-computer test equipment. Computing services on IBM 704 and 650 computers / RMSC(design), Ls(800) Me(1942) DAIC

Convair / Pomona, Convair Div. of General Dynamics Corp., 1675 West Fifth St., P.O. Box 1011, Pomona, Calif. / NAtional 9-5111 / *C 60

Automatic test equipment for product evaluation of control systems and data links. Automatic continuous monitoring equipment for pulse systems. Statistical quality control data analysis systems. Automatic mechanical inspection devices including analog-digital computation for analysis of variables. Special purpose manually operated equipment for r.f. system evaluation / RMS(design)a Ls(6000) Se(1951) ICc

Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill. / DIversey 8-6700 / *C 60

Automatic controls and equipment, data recording cameras and equipment; computing and consulting services, electrical and information converters; geophysical apparatus; magnetic and digital tape readers and recording heads; relays, stepping switches, magnetic tape recorders; telemetering systems / RMCa Ls(4800) Le(1897) DAIC

Corbin Corp., 265 Ewing St., Princeton, N.J. — moved, address not known

Cornell Computing Center, Rand Hall, Cornell University, Ithaca, N.Y. / IThaca 4-3211, X3325 / *C 60
Service computing bureau using Burroughs 220 / R (education)a Ss(20) Se(1953) DAc

Cornell-Dubilier Electric Corp., 333 Hamilton Blvd., S. Plainfield, N.J. / PLainfield 6-9000 / *C

Test equipment. Components, including capacitors, converters, printed circuits, etc. / RMSa Ls Le(1910) Ic

Corning Glass Works, Electronic Component Dept., 550 High St., Bradford, Pa. / FOrest 2-5571 / *C 60

Electronic components, capacitors, printed circuit

boards, ultrasonic delay lines, resistors, trimmers, attenuator plates, level switches, metallized glass components / RMSa Ls(13,000 in company) Le (1851) Ic

CORPORATION FOR ECONOMIC AND INDUSTRIAL RESEARCH — name changed to C-E-I-R, Inc., which see

Creed & Co., Ltd., Telegraph House, Croydon, Surrey, England / MUnicipal 2424 / *C 59

Wide range of teleprinters and punched tape equipment for communications, data processing, automation / RMSCa Ls(2000) Le(1909) DIC

Cubic Corporation, 5575 Kearny Villa Rd., San Diego 11, Calif. / BRowning 7-6780 / *C 60

Transistorized playback system; transistorized digital recording system; digital computers, analog to digital converters, data processing and translating equipment / RMSa Ms(400) Se(1950) DIC

Curtiss-Wright Corp., Electronics Div., 631 Central Ave., Carlstadt, N.J. — no response '59, '60

Curtiss-Wright Corp., Research Div., Quehanna, Pa. — no response '59, '60

D

Dale Products, Inc., Box 136, Columbus, Nebraska / LOcust 4-3131 / *C 60

Resistors, Trimmer potentiometers, resistor networks, printed circuits, cable assemblies / RMSa Ls(700) Se(1951) Ic

Dasol Corp., 14 Charlton St., New York 14, N.Y. / CHelsea 3-1800 / *C 59

Consulting services and systems engineering, specializing in integrated data processing and materials handling systems associated with physical distribution of product lines, including materials, allocation, inventory controls, customer order processing and warehousing / Ca Ss(15) Se(1954) Ic

Data Instruments Div. of Telecomputing Corp., 12838 Saticoy St., N. Hollywood, Calif. / STanley 7-8181 / *C 59

Data reduction equipment, tape perforators and tape handling equipment, electro-mechanical counters / RMSCa Ls(2500) Me(1947) DAC

DATAMATIC DIV., MINNEAPOLIS-HONEYWELL Regulator Co., 151 Needham St., Newton Highlands 61, Mass. / DEcatur 2-6960 / *C 59

Electronic data processing systems. Training, sales, service, and service bureau / RMS(training)a Ls (750) Se(1955) DIC

W. W. Finke, Pres. / G. S. Younkin, VP

DATA PROCESSING CORP., 122 East 42nd St., New York 17, N.Y. / YUkon 6-1385 / also Washington, D.C. and Philadelphia, Pa. / *C 60

Management and operation of data processing systems service centers, including programming and electronic computer services RCPa Ss Se(1958) DIC
H. Jefferson Mills, Jr., Pres.

Data Processing Digest (Canning, Sisson & Assoc.). 1140 S. Robertson Blvd., Los Angeles 35, Calif. / BRadshaw 2-8425 / *C 60

Monthly bibliographic service in electronic data

processing and related fields / RMSa Ss(5) Se (1954) Dc

DATA PROCESSING, INC., 572 Washington St., Wellesley 81, Mass. / CEDar 5-5494 / *C 60

Analytical and programming services for digital computer applications / Ca Ss(12) Se(1957) Dc
Richard K. Bennett, Pres.

Data Systems Dept., Norden Div., United Aircraft Corp., 13210 Crenshaw Blvd., Gardena, Calif. / FA 1-1775 / *C 60

Tape controls for machine tools and paper handling mark sensing digital systems / RMSa Ms(250) Se (1955) DIC

Data Systems Division (formerly PDP Division), American Electronics, Inc., 10 E. 40th St., New York 16, N.Y. / LEXington 2-3494 / *C 60

Data collecting systems; Data Integrator for data collecting and integration which combines pre-punched, variable, and measurable information into tape; Mek-a-Punch, portable card punch for commercial and industrial use / RMSa Ms(230) Me (1930) DIC

Datex Corp. (a subsidiary of Giannini Controls Corp.), 1307 So. Myrtle Ave., Monrovia, Calif. / ELiot 9-5381 / *C 60

Analog-to-digital shaft position encoders; automatic controls; data recording and positioning systems; input-output devices, pressure scanners and pressure cutoffs / RMSCa Ms(170) Se(1958) DAIC

Datics Corp., 6000 Camp Bowie Blvd., Fort Worth 16, Texas — out of business

The Daven Co., Route 10, Livingston, N.J. / WYman 2-4300 / *C 60

AC summing amplifier networks (RC); AC and DC resistance networks; integrating networks; differentiating networks; phase shifters; voltage ratio standards; plug-in, potted circuits; computer components; embedded assemblies and components; static power supplies; resistors; stepping switches. Consulting services / RMSCa Ms(490) Le(1929) AIC

Davies Laboratories, Inc., Div. of Minneapolis-Honeywell Regulator Co., which see

DAYSTROM, INC., CONTROL SYSTEMS DIVISION, 4455 Miramar Rd., La Jolla, Calif. / GL 4-0421 / *C 60

Digital computers, data reduction, memory systems, Magsense® detectors and alarms, systems engineering and service force. Complete solid state digital process control systems; transistorized random access magnetic core memory systems; tape-to-tape converters / RMSa Ms(160) Se(1956) DAIC
Chalmer E. Jones, Gen'l. Mgr. / John A. Palmer, Mktg. Mgr.

Daystrom Incorporated, Military Electronics Div., Archbald, Pa. / Jermyn, Pa. 1100 / *C 60

Special purpose data handling to military specification / RMa Ls(1100) Se(1951) DAIC

Daystrom, Inc., Weston Instruments Div., 614 Frelinghuysen Ave., Newark 12, N.J. / — / *C 60

Instruments and components: indicating, recording, and controlling instruments; product resolvers, input-output devices, multipliers, relays, and resistors / RMSa (?)s (?)e Ic

- Daystrom Systems, Div. of Daystrom, Inc. — name changed to DAYSTROM, INC., Control Systems Division, which see
- Daystrom Transicoil Corp., Worcester, Montgomery County, Pa. — no response '59, '60
- The de Florez Co., Inc., 200 Sylvan Ave., Englewood Cliffs, N.J. / LOwll 7-3990 / *C 59
Register controls, servomechanisms, control systems, mechanical design. Research and development. Synthetic training devices / RMCa Ms(50) Se(1948) DAICc
- DeJur-Amsco Corp., Electronic Sales Div., 45-01 Northern Blvd., Long Island City 1, N.Y. / Ravenswood 1-4009 / *C 60
Precision potentiometers, panel instruments, precision electrical connectors / RMSa Ms(500) Le(1922) Ic
- DELCO RADIO DIVISION, GENERAL MOTORS CORP., 700 East Firmin St., Kokomo, Indiana / GL-28211 / *C 60**
Digital control computers — airborne, ground and special purpose; power transistors — up to 50 amp; silicon rectifiers — up to 125 amp; digital module circuits, buffer memory system, data format converters, and special purpose analog computers / RMS(study programs)a Ls(4900) Me(1936) DAIC Martin J. Caserio, Gen'l. Mgr. / Howard M. Stelzl, Dir. of Sales & Engrg.
- Delttime, Inc., 608 Fayette Ave., Mamaroneck, N.Y. — no response '59, '60
- Dennison Mfg. Co., Machines Systems Division, Howard St., Framingham, Mass. / TRinity 3-3511 / *C 60
Print punch tickets — single or multiple stub-coded basic input media / RMSa Ls(3000, Dennison) Le(1844, Dennison) Ic
- DIALIGHT CORP., 60 Stewart Ave., Brooklyn 37, N.Y. / HYacinth 7-7600 / *C 59**
Indicator lights, pilot lights, ultra-miniature indicator lights ("Datalites") for computer and automation fields. Also Data-Strip and Data-Matrix for computers, etc. Oil-tight indicator lights for heavy-duty industrial applications / RMSa Ms Me(1937) Ic
- Dialtron Corporation, 203 Harrison Pl., Brooklyn 37, N.Y. / HYacinth 7-7600 / *C 59
Thermal time delay relays / RMSa Ms(230) Me(1938) Ic
- Diamonite Products Mfg. Co., McConkey St. Ext., Shreve, Ohio / JO 7-4211 / *C 60
Computer components of alumina ceramics, high strength, low loss, high density, electrical insulating, vacuum tight, readily metallized / RMSa Ms(150) Me(1940) Ic
- DI/AN Controls, Inc. 40 Leon St., Boston 15, Mass. / Hlghlands 5-5640 / *C 60
Buffer storages, memories, special purpose digital and analog computers, code and format converters, digital computer elements, counters, magnetic and transistor shift registers and logical elements, transistor circuit packages, plug-in circuits, servo amplifiers, special instrumentation equipment / RMSc Ms(60) Se(1958) DAIC
- DIAN LABORATORIES, INC., 611 Broadway, New York 12, N.Y. / AL 4-6555 / *C 60**
- D.C. analog computers — analog computing services. Analog computing services; general purpose analog computers. Design and construction of special purpose computers, simulators, and trainers / RMSCa Ss(15) Se(1955) Ac
Dr. S. Fifer, Pres. / U. Manfredi, Sec.
- JOHN DIEBOLD & ASSOCIATES, INC., 40 Wall St. New York 5, N.Y. / WH 3-9115 / *C 60**
Management consultants specializing in management science and automatic data processing. Counsel; training; courses; published subscription information service / C(training)a Ss(30) Se(1954) Ic
- Diehl Mfg. Co., 1225 FINDERNE AVE., SOMERVILLE, N.J. / RA 5-2200 / *C 59
Servomotors: tachometers; resolvers; servo amplifiers; servo systems; high frequency phase shifters / RMSa Ls(2700) Le(1888) Ic
- Digital Equipment Corp., Maynard, Mass. / TWin Oaks 7-8821 / *C 59
Digital computers, digital test equipment; digital system buiding blocks; special computer systems / RMSa Ms(50) Se(1957) Ic
- Digital Service Labs, 23922 Crenshaw Blvd., Torrance, Calif. / DAvenport 5-0711 / *C 59
Electronic computers, service test equipment, and paper tape preparation equipment / RMSCa Ss(8) Se(1955) DAIC
- Digitronics Corp., Albertson Ave., Albertson, N.Y. / PIONEER 7-5090 / *C 60
Photoelectric and digital computing and data processing systems; auxiliary tape processing equipment including tape interrogators, converters, tape tester; clutches; high sped perforated tape readers / RMSCa Ms(75) Se(1957) DICc
- Dilectron Div. of the Gudeman Co., 2669 S. Myrtle Ave., Monrovia, Cal. — no response '59, '60
- DIT-MCO, Inc., Electronics Div., 911 Broadway, Kansas City 5, Mo. / Harrison 1-8484 / *C 59
Universal automatic electrical circuit analyzers and multipliers; functional testers for testing complex relay circuitry / RMSCa Ms(165) Se(1953) Ic
- DocuMation, Inc., Wodbury, N.J. — moved, left no address
- Donner Scientific Co., 888 Galindo St., Concord, Calif. / MULberry 2-6161 / *C 59
Analog computers; multipliers; delay and function generators; amplifiers / RMSa Ms(200) Se(1953) ACc
- Dorsett Laboratories, Inc., 401 East Boyd, Norman, Okla. / JEFFERSON 4-3750 / *C 59
Special analog computers / RMSCa Ss(30) Se(1950) AIC
- DOUGLAS AIRCRAFT CO., INC., DOUGLAS COMPUTING SERVICE, Dept. G-31, Santa Monica, Calif. / EX 9-9311, ext. 2122 / *C 60**
Rental of excess digital computing machine time on the wide range of business and scientific computers / CAa Dc
- J. H. Drillick Research Lab., Inc., 433 Central Ave., Orange, N.J. — moved, left no address
- Arnold I. Dumey, 29 Barberry Lane, Roslyn Heights, N.Y. / MAYfair 1-7239 / *C 60
Consultant, data handling problems / Ca Ss Se(1954) DIc

Dynacor, Inc., a subsidiary of Sprague Electric Co., 1014 Westmore Ave., Rockville, Md. / Magnetic cores / —

E

Eagle Signal Corp., 202 20th St., Moline, Illinois — no response '59, '60

Eastman Kodak Co., 343 State St., Rochester 4, N.Y. / L0cust 2-6000 / *C 60

Photographic equipment, cellulose yarns, staple synthetic and organic chemicals and dyestuffs; fire control equipment; facsimile equipment (photocopy); recording paper / RMSa Ls(74,000, world-wide) Le Ic

EBASCO SERVICES INCORPORATED, 2 Rector St., New York 6, N.Y. / DIgby 4-4400 / and elsewhere / *C 60

Management consultants; consulting services in applications of electronic data processing to accounting and business systems; feasibility studies; installations / CPa Ls(1600) Le(1905) DIC

H. H. Scaff, Vice Pres. / A. W. Hatch, Mgr. — Acctg. & Mgmt. Control Dept.

Edin, a Div. of Epsco, Inc., 207 Main St., Worcester 8, Mass. / PL 7-8394 / *C 59

Industrial and medical electronic instruments, oscillograph recorders and amplifiers, frequency analyzers, weld analyzers, recording papers / RMSa Ss(45) Me(1935) Ic

Thomas A. Edison Industries, Instrument Div. of McGraw-Edison Co., 36 Lakeside Ave., West Orange, N.J. / ORange 3-6800 / *C 60

Servo motors, motor generators, gear heads, electro-mechanical packages. Time delay relays, thermostats and sensitive D.C. relays / RMSa Ms(360 div.) Me(1940 div.) ISc

Edo Corp., 13-10 111th St., College Point 56, N.Y. / HIckory 5-6000 / *C 60

Delay lines / RMSa Ls(500) Le(1925) Ic

Educational Research Corp., 10 Craigie St., Cambridge 38, Mass. — no response '59, '60

EFCON, Incorporated, Patterson Place, Roosevelt Field, Garden City, L.I., N.Y. / PIoneer 1-4200 / *C 60

Paper and plastic film capacitors, solid electrolyte tantalum capacitors / RMSa Ms(50) Se(1952) Ic

ELCO CORPORATION, "M" Street below Erie Ave., Philadelphia 24, Pa. / CU 9-5500 / *C 60

E-Z Mate socket; tube shields and sockets, Varicon connectors: standard, miniature, subminiature and microminiature sizes; Varipak P.C. card cages / RMSa Ms(400) Me(1947) Ic

Benjamin Fox, Pres. / Leo Kagan, Vice Pres., Sales

ELECTRALAB PRINTED ELECTRONICS CORP., 175 "A" St., Needham Heights 94, Mass. / HILLcrest 4-3912 *C 60

Printed wiring and printed circuit assemblies; PROTOMAKA — a laboratory unit for making printed wiring boards for prototypes / MSa Ms(250) Se(1952) Ic

Richard G. Zens, V. P. — Sales / Warren G. Abbott, Sales Manager

ElectroData Div. of Burroughs Corp. — see Burroughs Corp., ElectroData Div.

Electro Instruments, Inc., 3540 Aero Court, San Diego 11, Calif. / BRowning 7-6590 / *C 60

Digital voltmeters; digital ohmmeters, digital ratio-meters, analog-to-digital converters, data converters, frequency counters, X-Y recorders, wideband DC amplifiers, go no-go systems, automation systems, digital testers, and other digital instruments / RMSa Ms(450) Se(1954) DAIC

Electrol, Inc. — name changed to General Computers, Inc., which see

N. V. ELECTROLOGICA, Paleisstraat 9, The Hague, Netherlands / — / *C 60

Computer, general purpose, transistorized, magnetic core memory up to more than 30,000 words of 27 bits, including sign; time-sharing features; input, output; punched tape and cards, magnetic tape, printer, typewriter, high speed printer / RMSCa Ms(100) Se(1956) Dc

Electro-Measurements, Inc. — name changed to Electro-Scientific Industries, Inc., which see

Electro-Mec Laboratory, Inc., 47-51 33rd St., Long Island City 1, N.Y. / STillwell 6-3402 / *C 60

Manufacture of potentiometers, precision, variable, wire wound; Digitometers (trade name), analog to digital converters; goniometer, precision shaft positioner, to evaluate, test and calibrate potentiometers / RMSa Ms(150) Se(1950) DAIC

Electro-Mechanical Research, Inc., P.O. Box 3041, Sarasota, Fla. / RIngling 6-1148 / *C 60

Digital decomposition, shaft encoders, all types of telemetry, transducers / RMSCa Ls(500) Me(1942) Ic

Electro-Mechanical Research, Inc., ASCOP Div., (formerly Applied Science Corp. of Princeton) P.O. Box 3041, Sarasota, Florida / RIngling 6-1148 / *C 60

Pulse duration telemetry, statistical data analysis, industrial telemetry and supervisory control, data handling systems, analog computers, consulting services, automatic and signaling controls, computing converters, scanners, simulators, shaft-position digital encoders / RMSa Ls(850) Me(1942) DAIC

Electrometric Division of Whitewater Electronics, Inc., 136 W. Main St., Whitewater, Wis. / 986 / *C 59

Delay lines for computers and radar systems; inductors of any type / RMSa Ms(150) Se(1955) Ic

Electro-Miniatures Corp., 606 Huyler St., South Hackensack, N.J. / HUbbard 9-7770 / *C 60

Slip rings, ring and brush assemblies, coded commutators, rotary switches / RMSCa Ms(100) Se(1954) ICc

The Electro-Motive Manufacturing Co., Inc., South Park and John Sts., Willimantic, Conn. / HA 3-4551 / *C 59

Capacitors: molded mica, dipped mica, silvered mica film, ceramic tubular paper, paper dipped, mylar-paper dipped, ceramic disc, ceramic feed-thru, ceramic variable, variable mica trimmer and padder — for computer and other uses / RMSa Ls(1,600) Me(1945) Ic

Electronic Associates, Inc., Long Branch Ave., Long Branch, N.J. / CApital 9-1100 / *C 60

General purpose analog computers, computation services, data processing (X-Y recorders), laboratory instruments / RMSCa Ls(1100) Me(1945) Ac

- Electronic Business Services, 3266 Hunts Point Rd., Bellevue, Wash. / GLencourt 4-5810 / *C 59
Consultants in automation and data processing service specializing in the needs of small and moderate size business firms / RMSC(Data Processing Services) a Ss(3) Me(1955) Ic
- Electronic Computer Programming Institute, 1234 Broadway, New York 1, N.Y. — no response '59, '60
- Electronic Contractors, Inc., 2101 SE 6th St., Portland, 14, Ore. / BE 4-3515 / *C 60
AC network computers and analyzers, Enns power network computer / MSa Ss(20) Se(1953) Ac
- Electronic Control Systems, Inc., 2136 Westwood Blvd., Los Angeles 25, Calif. — no response '59, '60
- Electronic Engineering Company of California, 1601 East Chestnut Ave., Santa Ana, Calif. / KIMberly 7-5501 / *C 59
Electronic research and development in the fields of precision timing equipment, data processing and translating equipment and guided missile test range equipment; card-to-magnetic-tape converters, magnetic-tape-to-card converters / RMSa Ms(250) Me(1947) Ic
- Electronic Research Associates, Inc., 67 Factory Place, Cedar Grove, N.J. — no response '59, '60
- Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif. — no response '59, '60
- Electronic Transformer Co., Inc., 70 Washington St., Brooklyn 1, N.Y. / MAIn 5-6123 / *C 60
Coils, pulse transformers, all types of magnetic components for computer and other uses / RMSCa Ms(165) Me(1937) Ic
- Electronics Corp. of America, 77 Broadway, Cambridge 42, Mass. — no response '59, '60
- Electronics Development Corp., 3743 Cahuenga Blvd., No. Hollywood, Calif. / TRIangle 7-3223 / *C 60
RF wideband data/transmission systems / RMSa Ss(20) Se(1955) Ic
- Electro Precision Corp., P.O. Box 669, Arkadelphia, Ark. / CHApel 6-2272 / *C 59
General purpose and special purpose analog computers, computer components, and servo mechanisms / RMSa Ss(20) Se(1958) AISc
- ELECTRO PRODUCTS LABORATORIES, INC., 4501 N. Ravenswood Ave., Chicago 40, Ill. / LONGbeach 1-1707 / *C 60**
Metal sensing transducers, over/under speed controls, electronic tachometers. / RMSa Ms(50) Me(1936) DAIC
Richard C. Crossley, Pres. / Lloyd A. Thacher, Sales Mgr.
- Electro-Scientific Industries, Inc. (formerly Electro-Measurements, Inc.), 7524 S.W. Macadam, Portland 19, Ore. / CH 6-3331 / *C 60
ESIAC analog computer for root locus plots, bode plots, residue evaluation and polynomial factoring / RMSa Ms(140) Me(1949) AIC
- Electrosnap Corporation, Switch, Optical & Scientific and Astromatic Div. — name changed to Control Switch Div., Controls Co. of America, which see
- Elgenco, Inc., 1555 14th St., Santa Monica, Calif. / EXbrook 3-3023 / *C 60
Low frequency Gaussian noise generators for use with analog computers / RMSCa Ss(7) Se(1955) Ic
- Elliott Addressing Machine Co., 143 Albany St., Cambridge 39, Mass. / TRowbridge 6-2020 / *C 60
Addressing equipment and addressing stencils of various sizes, including punch card stencil (3¼ x 7¾). Punched paper tape-to-stencil converters. Punch card and punch card stencil comparing and selective addressing / RMSa Ls(1000) Le(1900) Ic
- Elliott Bros. (London) Ltd., Century-Works, Lewisham, London, S.E. 13, England, and Computing Machine Div., Elstree Way, Borehamwood, Herts., England / Tideway 2323, ELstree 2040 / *C 59
Servomechanisms; Elliott 402, 405, 405M, 802, electronic digital computers, punched card reader, punched tape reader; GPAC (General purpose analog computer). Computing services; components, instrumentation and control for process industries / RMSCP a Ls(3500) Le(1800) DASCc
- EL-RAD MANUFACTURING COMPANY, 4300 N. California Ave., Chicago 18, Ill. / IRving 8-7300 / *C 60**
Delay lines and pulse transformers for computer application / Ma Ms(300) Me(1944) Ic
John A. Snow, Pres. / John T. Clark, Chf. Engr.
- ENGINEERED ELECTRONICS CO., 1441 E. Chestnut Ave., Santa Ana, Calif. / KI 7-5651 / *C 60**
Transistorized plug in modules, indicators and decodes. High-density MiniWeld Packaging. Complete line of digital building blocks. Line includes transistorized plug-in modules, transistorized Mini-sig indicators, and transistorized decade counters. Systems development racks, patch cords, power plugs and power supplies available for patching up preliminary systems prior to production work. All units use standard pin connections. / RMSa Ms(100) Me(1950) Ic
T. W. Jarmie, Pres. / Arthur B. Williams, Vice Pres., Sales
- Engineers Northwest, 1554 Nicollet Ave., Minneapolis 3, Minn. / Re 5541 / *C 59
Test-scoring machines and equipment / RMSCa Ss(45) Me(1945) DAC
- The English Electric Company, Ltd., Marconi House, Strand, London, WC2, England / Covent Garden 1234 / *C 59
Deuce, universal digital computer; also special purpose electronic digital computers for use with kinetic heat simulators / RMSa Ls(1100) Dc
- Epsco, Inc., 275 Massachusetts Ave., Cambridge 39, Mass. / UNiversity 4-4950 / *C 60
Computer components and equipment: shift registers, and assemblies, buffer storage units, converters, printers, telemetry systems, special purpose computers, monitoring systems, etc. / RMSa Ls(1200) Se(1954) DAIC
- Erco Plant, Nuclear Products, Div. of ACF Industries, Inc. — now known as ACF Electronics Div., which see
- ESC CORPORATION, 534 Bergen Blvd., Palisades Park, N.J. / WIndsor 7-0400 / *C 60**
Delay lines, pulse forming networks, pulse transformers, filters, embedded assemblies and components, shift registers, miniature pulse transformers, etc. / RMSa Ms(250) Se(1953) Ic
Morton Fassberg, Pres. / Stanley S. Packer, Vice Pres.

E-Z Sort Systems, Ltd., 45 Second St., San Francisco 5, Calif. / GARfield 1-8005 / *C 59
Edge-punched cards for filing and sorting data. Special cards for correlation of facts. Control systems for a number of electronic computers / RMSa Ms (246) Me(1935) Ic

F

Fabrica Addizionatrice Italiana S.S., Ciale Umbria 36, Milan, Italy — no response '59, '60

Facit, Inc., 404 4th Ave., New York 16, N.Y. (subsidiary of AB Atvidabergs Industrier, Stockholm, Sweden) / MURrayhill 4-5842 / *C 59

Desk calculators, adding machines, Odhner adding machine with multiplying features; typewriters, etc. (In 1390 A.D., copper mining) / RMSa Ls(5000) Le(1390 A.D.) Dc

FAE Instrument Corp., 42-61 Hunter St., Long Island City 1, N.Y. / ST 6-4959 / *C 60

Precision magnetic brakes, clutches, gear trains, differentials, couplings; design servo systems / RMSa Ss(35) Se(1950) Ic

Fairchild Camera and Instrument Corp., Robbins Lane, Syosset, L.I., N.Y. / WELls 1-4500 / *C 59

Digital magnetic tape transports / RMSa Ls(1500) Le(1920) Ic

Fairchild Controls Corp., Components Div., 225 Park Ave., Hicksville, L.I., N.Y. / WELls 8-5600 / *C 60

Precision potentiometers, pressure transducers, rate gyros, accelerometers, computing converters, electronic generators. Subsidiary of Fairchild Camera and Instrument Corp. / RMSa Ms(560) Le(1920) Ic

Fairchild Graphic Equipment, Div. of Fairchild Camera and Instrument Corp., Fairchild Dr., Plainview, L.I., N.Y. / WELls 8-9600 / *C 59

Tape perforators and operating units for local or distant automatic control of Linotypes and Inter-types / RMSa Ms(350) Ic

Fansteel Metallurgical Corp., North Chicago, Ill. / DEXter 6-4900 / *C 60

Tantalum capacitors, silicon rectifiers and selenium rectifiers / RMSa Ls(2000) Le(1907) Ic

Farrand Controls, Inc., 4401 Bronx Blvd., New York 70, N.Y. / FAIRbanks 4-2210 / *C 59

"Inductosyn" numerical control equipment / RMSCa Ms Se(1950) Ic

Farrand Optical Co., Inc., Bronx Blvd. and E. 238 St., New York 70, N.Y. / FAIRbanks 4-2200 / *C 59

Gunfire control apparatus, rangefinders, optical and electronic sighting equipment, automatic trackers, infrared search and scanning systems, analog-digital converters, analog computers, etc. / RMSCa Ls (500) Le(1923) DASCc

Farrington Electronics Inc., New England Industrial Center, Needham Hgts. 94, Mass. / HIGHlands 4-5000 / *C 60

Optical scanners, addressers, imprinters, plastic identification tokens / MSa Ms(250) Le(1908) Ic

Federal Telephone and Radio Co., Div. of ITT — name changed to ITT Federal Div., which see

Feedback Controls, Inc., 8 Erie Dr., East Natick, Mass. / TWInbrok 4-1020 / *C 59

Magnetic amplifiers, quadrature rejectors, data repeaters, servo multipliers, servo-motor gearheads, analog computers, computer test equipment, servo multipliers / RMSa Ms(60) Se(1954) AIC

Fenwal, Inc., 362 Pleasant St., Ashland, Mass. / TRInity 5-6111 / *C 60

Temperature indicators and controllers, fire detection systems, monitoring systems / RMSa Ls(700) Me(1935) Cc

Ferranti Electric, Inc., 30 Rockefeller Plaza, New York 20, N.Y. / CIRCLE 7-0911 / agent for Ferranti Ltd., Moston, England, and Ferranti-Packard Electric Ltd., Toronto, Can. / mfg plants in Brooklyn, N.Y., and Hempstead, N.Y. / *C 60

General purpose digital computers (Pegasus, Mercury, Perseus, Sirius, Argus, etc.) special purpose data processing systems, high speed paper tape readers, magnetic drums, magnetostriction delay lines, digital position measuring equipment, Ferranti Business transactor, paper tape to magnetic tape converter, automatic control equipment, translating equipment, storage systems, memory systems / RMSa Ls (14,000) Le(1896) DIC

Ferranti, Ltd., West Groton, Manchester, England, and London Computer Centre, 21 Portland Place, London W. 1., England — no response '59, '60

Ferranti-Packard Electric Ltd. (Electronics Div.), Industry St., Toronto 15, Canada / ROger 2-3661 / *C 60

General and special purpose digital computers, paper tape readers, magnetic storage drums, special input-output equipment / RMSCa Ms(200) Le (1913)

Ferroxcube Corp. of America, 2900 E. Bridge St., Saugerties, N.Y. / CHerry 6-2811 / *C 60

Ferrite cores, including pot cores, cup cores, recording heads, and microminature toroids with square hysteresis loop; memory arrays, thermistors, varistors, light-dependent resistors, ceramic permanent magnets, resistors, pulse transformers / MSa Ms(200) Se(1949) Ic

Financial Publishing Co., 82 Brookline Ave., Boston 15, Mass. / KENmore 6-1827 / *C 59

Computing service: digital; card programmed calculators, punch card / RMSa Ms(60) Le(1890) Dc

FISCHBACH, McCOACH & ASSOCIATES, INC., 122 East 42nd St., New York 17, N.Y. / MURray Hill 2-5696 / *C 60

Management consultants specializing in applied scientific techniques to business-type problems. Complete service in appraisals and installation of electronic data processing and control systems for management in business, industry, and government. Operations research; product appraisals; marketing analysis / RCPa Ss(?) Se(?) DAISC
Dr. J. W. Fischbach, Pres.

Fischer & Porter Co., 330 Warminster Rd., Warminster, Pa. / OSborne 5-6000 / *C 60

Data reduction and automation equipment including data loggers, analog-to-digital converters and recorders, digital indicators, and telemetering systems / RMSCa Ls(1200) Me(1937) DAIC

Flight Research, Inc., P.O. Box 1-F, Richmond 1, Va. / REPUBLIC 7-4163 / *C 60

Photographic data recording equipment; data re-

cording cameras (pulse and cine). Automatic exposure control, intervalometer, clutches. Autopilot Omni Coupler / RMSa Ss(35) Me(1946) Ic

Ford Instrument Co., Div. of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N.Y. / STillwell 4-9000 / *C 59

Fire control systems, analog and digital computers, missile guidance systems, servo motors, differential and integrator elements, instruments for shipborne and airborne armament and navigational control, nuclear reactors, computers, systems, drives, and precision components; magnetic amplifiers; automatic control systems / RMSa Ls(4000) Le(1915) DAICc

The Foxboro Co., Neponset Ave., Foxboro, Mass. — no response '59, '60

Franklin Electronics Inc., E. 4th St., Bridgeport, Pa. / BRoadway 2-4800 / *C 60

Data reduction systems; digital voltmeters / RMSa Ms(90) Se(1951) Ic

Franklin Institute Computing Center, Benj. Franklin Parkway at 20th St., Philadelphia 3, Pa. / LOcust 4-3600, Ext. 246 / *C 60

Complete data processing and computing services for business, industrial and scientific applications. Services include consulting, feasibility studies, equipment evaluation, systems analysis and design, operations research, mathematical and statistical analysis, programming and use of a large scale UNIVAC data processing system on premises / C(Service Bureau, Data Processing Center)a Ss(30) Le(1824) Ic

FRIDEN, INC., 2350 Washington Ave., San Leandro, Calif. / NEptune 8-0700 / *C 60

Automatic desk calculators; adding machines; Flexowriter — automatic writing machine; Computer — automatic writing-computing machine; Add-Punch — code tape adding-listing machine; Selectadata — automatic tape reader-selector-sorter; Teledata — automatic 5-8 channel tape transmitter-receiver; Collectadata — automatic data collection system. Complete line of equipment for reading, punching, verifying, converting, and transmitting common language tape, edge-punched cards, or tabulating cards. Complete line of data processing equipment / RMSGa Ls(4000) Me(1934) DISc

G

The Gamewell Company, 1238 Chestnut St., Newton Upper Falls 64, Mass. / BIgelow 4-1240 / *C 60

Potentiometers, rotary switches / MSa Ms(400) Le(1857) Ic

Gap Instrument Corp., 116 E. Merrick Rd., Freeport, N.Y. / FR 8-1040 / *C 59

Servo construction system for quickly building prototype and production servos, step motors / MSa Ss(12) Se(1953) ISc

Eugene Garfield Associates, 1122 Spring Garden St., Philadelphia 23, Pa. / POplar 5-7818 / *C 60

Facsimile equipment, Information engineering / RCa Ss(14) Se(1955) Ic

H. S. GELLMAN & CO., LTD., 481 University Avenue, Toronto 2, Ontario, Canada / EMpire 4-4247 / *C 60
Electronic data processing consultants: feasibility studies, programming services, operations research, training of clients' personnel / RCa Ss Se(1955) Dc
Dr. H. S. Gellman, Pres.

General Automatic Corp., 12 Carlton Ave., Mountain View, Wayne, N.J. — moved, address not known.

General Automatics, Inc., 2443 Ash St., Palo Alto, Calif. / DA 4-0360 / *C 60

Special purpose analog and digital computers, automatic control equipment, automatic charge systems, analog less-than-limit sensors, go/no-go comparators, and timer-comparators / RMSCa Ss(15) Se(1954) DACc

General Ceramics Corporation, Crows Mill Rd., Keasbey, N.J. (near Perth Amboy) / VALley 6-5100 / *C 59

Ferrites, technical ceramics, magnetic memory cores and storage planes, memories, ceramic to metal seals; insulators; terminals / RMSa Ls(500) Le(1906) Ic

General Computers, Inc., 9000 W. Pico Blvd., Los Angeles 35, Calif. / BRadshaw 2-6010 / *C 60

Analog computers, card programmed function generators, amplifiers / RMSa Ss(25) Se(1957) AIC

General Controls Co., 801 Allen Ave., Glendale 1, Calif. / VICToria 9-2181 / *C 60

Automatic controls for product or process. Counters and counting devices, actuators, magnetic valves, Hydromotor® electrohydraulic valves and actuators, industrial controls and instruments, mercury switches, Klikswitch® snap-acting switches, time switches (sequence), transformer-relays, contactors, limit controls (temperature) precision potentiometers, turns counters / RMSa Ls(3000) Le(1930) CIC

General Cybernetics Corp., affiliate of The Angle Computer Co., Inc., 1751 No. Coronado St., Los Angeles 26, Calif. / NORmandy 3-1300 / *C

Linear motion transducer reporting 1/10,000 of an inch position change; high-speed converter of punched cards to tape; industrial automation, electronic gages for automation processes, etc. Successor of General Cybernetics Associates / RCMSa Ss(18) Se(1953) DAICc

General Electric Co., 316 East 9th St., Owensboro, Ky. / 3-2401 / C* 60

General Electric Five-Star Computer Tubes, industrial and computer electronic tubes; commercial glass, metal, and miniature tubes; military miniature, sub-miniature, and ceramic tubes; computer tubes specially designed and manufactured to meet the requirements of all types of computers / RMSa Ls(6500) Le(1917) DAIC

General Electric Co., Schenectady, N.Y.

Computing service: analog; network analyzer AC and DC, differential analyzer; not restricted as to users / RCPa AIC

General Electric Co., Capacitor Dept., Electronic Capacitor Section, P.O. Box 158, Irmo, So. Carolina / ALpine 2-6332 / *C 60

Capacitors for computers / RMSa Ls(500 plus) Le(before 1900) Ic

General Electric Co., Capacitor Div., John St., Hudson Falls, N.Y. / 4-3341 / *C 58

Capacitors: oil-paper, molded composition, electrolytic, plastic, film, etc., for computer circuits and other uses / RMSa Ic

General Electric Co., Computer Dept., 13430 Black Canyon Highway, Phoenix, Ariz. / WI 3-2351 / *C 60

Computing systems (analog and digital) and computing and consulting services for industry, business, and military; automatic controls and equipment; document handling and reading equipment / RMSCa Ls(1800) Se(1956) DAICc

General Electric Co., Light Military Electronics Dept., French Rd., Utica, N.Y. / SW 7-1000 / *C 60

Airborne and light weight computers for military applications—digital and analog / RMSa Ls(6000) Se(1952) DAC

General Electric Co., Low Voltage Switchgear Dept., Mountain View Rd., Lynchburg, Va. / 3-6571 / *C 59

DC power supplies for computers or computer systems; airborne transformer-rectifiers for DC power; military, industrial, and special purpose, complete DC power systems or components / RMSCa Ls(2000) Le(1916) DAIC

General Electric Co., Receiving Tube Dept., 11840 W. Olympic Blvd., Los Angeles 64, Calif. / GRanite 9-7765 / *C 59

Industrial and computer electronic tubes; commercial glass, metal, and miniature tubes; military miniature, subminiature, and ceramic tubes; computer tubes specially designed and manufactured to meet the requirements of all types of computers / RMSa Ls(?) Le(1875) DAIC

General Instrument Corp., Semiconductor Division & Automatic Manufacturing Division, 65 Gouverneur St., Newark 4, N.J. / HUmboldt 5-2100 / *C 59

Semiconductor division: silicon rectifiers, germanium and silicon diodes; automatic manufacturing division: I. F. transformers / RMSa Ls(5400) Le(1923) Ic

GENERAL KINETICS INCORPORATED, 2611 Shirlington Rd., Arlington 6, Va. / JAcKson 5-4055 / *C60

Services in: digital computer programming; programming research; computer test equipment. Programming services for all general purpose computers. Recommendation, design, and construction of automatic-programing-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(22) Se(1954) DICc

A. E. Roberts, Jr., Vice Pres. / W. L. Anderson, Vice Pres.

General Mills, Inc., Mechanical Div., 1620 Central Ave., N.E., Minneapolis 13, Minn. / STerling 9-8811 / *C 60

Digital computers, computer components, automatic handling equipment / RMSa Ls(1600) Le(1928) DIMc

General Precision Laboratory Inc., 63 Bedford Rd., Pleasantville, N.Y. / ROgers 9-5000 / *C 59

Data processing and display systems (air traffic control) / RMSa Ls(1800) Me(1954) DIC

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- General Transistor Corp., 91-27 138th Pl., Jamaica 35, N.Y. / HIckory 1-1000 / *C 60
Transistors — germanium and silicon types; precision resistors; germanium diodes, semiconductors, magnetic reading and recording heads / RMSa Ls (1000) Se(1954) Ic
- Genesys Corp., 10131 National Blvd., Los Angeles 34, Calif. / UPton 0-4671 / *C 59
Digital process control systems, data processing systems, single and multi-disc magnetic memories, digital readout indicators / RMSa Ms(100) Se (1958) DIc
- Genisco, Inc., 2233 Federal Ave., Los Angeles 64, Calif. / GR 9-4331 / *C 60
Transducers and memory drum motors / Ma Ms (280) Me(1946) Ic
- Georgia Inst. of Technology, Rich Electronic Computer Center — see Rich Electronic Computer Center
- The Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex / BR 8-8102 / *C 60
7-channel analog data transmission systems for remote recording, computing, simulating, or control; FM voltage-controlled subcarrier oscillators; FM subcarrier frequency discriminators; millimicrovolt amplifiers; long-term data drum recorders; self-developing oscillographs; 90-second period to 50 cps recording galvanometers; earthquake seismograph apparatus; seismic noise survey and calibration services; geophysical and seismological consultation; fully-automatic chart reader (curve follower) / RMSCa Ms(200) Me(1936) DAic
- Gille Associates, Inc., 956 Maccabees Bldg., Detroit 2, Mich. / TE 3-3454 / *C 60
Data processing monthly magazine, **The Punched Card Annual**; data processing handbooks / Ss(12) Se(1950) Ic
- Gilmore Industries, Inc., 13015 Woodland Ave., Cleveland 20, Ohio / RA 1-6400 / *C 59
Electronic control and data handling equipment; scanners; analog to digital converters, force instrumentation, transducer instrumentation, card to magnetic tape and paper tape converters, automatic controls and equipment / RMSCa Ms(50) Se(1950) DIc
- Goodyear Aircraft Corp., 1210 Massillon Rd., Akron 15, Ohio / REpublic 3-6361 / *C 60
Large scale digitally controlled analog computers. Special purpose computers. Control and data processing devices using AC or DC analog or digital computing techniques. / RMSa Ls(10,000) Le(1925) DACc
- Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif. / POplar 6-3725 / *C 59
Data recording, processing, and reduction equipment; cameras; counters; fire control equipment; geophysical apparatus; punch card machines and readers / RMSa Ms(147) Me(1945) Ic
- GPE Controls, Inc., 240 E. Ontario St., Chicago 11, Ill. / WHitehall 4-3700 / *C 60
Components: Electric flow, position, and furnace pressure transmitters; floating indicator and ratio indicator controllers; electronic controllers; electro-hydraulic valve actuators / RMSa Ms(400) Me (1931) Ic
- GPS Instrument Co., Inc., 180 Needham St., Newton 64, Mass. / *C 59
Electronic analog & statistical computer; special computing devices for data reduction / RMSCa Ss(25) ?e AIc
- Guardian Electric Manufacturing Company 1550 W. Carroll, Chicago 7, Ill. / CHesapeake 3-1100 / *C 60
Electro-magnetic controls, complete control systems, components for computers; relays, solenoids, switches, stepping relays, hermetically sealed elements, etc. / RMSa Ls(1000) Se(1957) Ic
- Gulton Industries, Inc., 212 Durham Ave., Metuchen, N.J. / (Plants at Hawthorne, Calif., Albuquerque, N.M., Princeton Jct., N.J.) / LIberty 8-2800 / *C 60
Medical electrical equipment, ultrasonic flowmeter for measurement and control; transducers, automatic control equipment, cables and connectors, amplifiers, cathode followers and filters, airborne tape recorders, data recording equipment; capacitors, delay lines, memory systems; ceramic coatings / RMSCa Ms(500) Me(1942) DAic

H

- Herbert Halbrecht Associates, 332 S. Michigan Ave., Chicago 4, Ill. / HARRison 7-2876 / *C 59
Management consultants and executive recruitment specialists for business and industry, with regard to electronic data processing and operations research / Ca Ss(4) Se(1957) DIc
- Hall-Scott, Inc., 2950 Ontario St., Burbank, Calif. — no response '59, '60
- Hallamore Electronics Co., Div. of The Siegler Corp., 714 No. Brookhurst Ave., Anaheim, Calif. / PRospect 4-1010 / *C 59
Instrumentation and telemetering, airborne control, automatic ground support and test, and closed circuit television systems / RMSa Ls(750) Se(1951) Ic
- Haller, Raymond, and Brown, Inc., Div. of Singer Mfg. Co. — name changed to HRB-Singer, Inc., which see Hammarlund Mfg. Company, Inc., 460 West 34th St., New York 1, N.Y. — no response '59, '60
- Harrison Laboratories, Inc., 45-53 Industrial Rd., Berkeley Hts., N.J. / CR 3-9123, TWX Summit, N.J. 977 / *C 60
Highly regulated power supplies, product development / RMSa Ss(45) Se(1954) Ic
- Harvard University, Harvard Computation Laboratory, Cambridge 38, Mass. / *C 60
Builder of Harvard Mark I, II, III, IV calculators for Navy, Air Force, and own use. Computing service: digital; Harvard Mark I and IV, and Univac I machines / RCPMa Ms Me(1941) Dc
- HARVEY-WELLS ELECTRONICS, INC.**, 14 Huron Drive, East Natick Industrial Park, Natick, Mass. / / CEDar 5-7370 / *C 60
Building blocks, modules, systems / RMSa Ms(280) Me(1940) Ic
R. A. Mahler, Pres. / A. Carl Westbom, V. P. and Sales Mgr.
- Cecil Hastings, Jr., 136 Kuuala St., Kailua, Hawaii — no response '59, '60

Hathaway Instrument Co. (subsidiary of Hamilton Watch Co.), 1315 So. Clarkson St., Denver 10, Colo. / SPruce 7-2696 / *C 59

Transducers, analog and digital recorders, oscillographs, circuit analysis, etc. / RCMSa Ms(80) Me(1939) Ic

The A. W. Haydon Co., 232 N. Elm St., Waterbury 20, Conn. / PL 6-4481 / *C 60

AC and DC timing motors, custom designed timing devices, elapsed time indicators, electronic timers, time delay relays, intervalometers, repeat cycle timers, stop clocks, subminiature times. Automatic controls, Tachometers / RMSa Ms(425) Me(1946) ICc

Edward Bernard Healy, Jr., Management Consultant, One 74th St., Brooklyn, N.Y. / Shore Road 5-7027 / *C 59

Management counsel in systems analysis, equipment evaluation, organization and facilities planning personnel recruitment, testing, selection and training; and installation programs for electronic computer and other automatic data processing systems in business, industry, and government / CGPa Ss(1) Se(1959) Ic

Heath Co., a Subsidiary of Daystrom Inc., Hilltop Rd., Benton Harbor, Mich. / YU 3-3961 / *C 60

Kit form analog computer. Power supplies, repetitive oscillator, function generator, amplifiers, etc. / RMSa Ls(500) Me(1932) DAic

Helipot Division of Beckman Instruments Inc., 2500 Fullerton Rd., Fullerton, Calif. / TRojan 1-4848 / *C 60

Precision potentiometers, single-and-multiturn, linear and non-linear; servomotors, velocity-damp, inertia-damp, servomotor-rate-generators; panel meters, expanded scale meters; turns-counting dials; delay lines / RMSa Ls(1000) Me(1943) Ic

Hermes Electronics Co., 75 Cambridge Parkway, Cambridge, Mass. / UN 4-7200 / *C 60

Display converters, plug-in modules, digital language translators / RMa Ms(340) Se(1955) Ic

HEWLETT-PACKARD COMPANY, 1501 Page Mill Rd., Palo Alto, Calif. / DAVenport 6-7000 / *C 60

Electronic test equipment; AC and pulse amplifiers, oscilloscopes, cameras, computer test equipment, digital voltmeters, electronic frequency and pulse counters, digital recorders with analog output, digital recorders with 10-line input, electronic function generators, pulse generators, digital delay generators, DC regulated power supplies, tachometer transducers and indicators / RMSa Ls(2300) Le(1939) DAic David Packard, Pres. / William R. Hewlett, Exec. V.P.

Hillburn Electronic Products Co., 55 Nassau Ave., Brooklyn 22, N.Y. / STagg 2-3875 / *C 60

Relays, solenoids, counters, for computer and other uses / RMSa Ms Me(1945) Ic

Hillyer Instrument Co., 54 Lafayette St., New York 13, N.Y. — moved, address unknown

Hoffman Electronics Corp., Semiconductor Div., 1001 N. Arden Dr., El Monte, Calif. / CUmberland 3-7191 / *C 60

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- devices, silicon "Read-Out" detector capsules and cells, silicon mesa transistors / RMa Ls(1000) Se (1954) Ic
- HOGAN FAXIMILE CORP.**, a subsidiary of TELauto-graph Corp., 155 Perry St., New York 14, N.Y. / CHelsea 2-7855 / *C 60
High speed printers and plotters, facsimile equipment, recording papers, communications systems, information retrieval devices, scanners, addressing machines, data processing machinery, data recording equipment, input-output devices, data reduction equipment, visual output devices / RMa Ms(70) Le (1928)
J. V. Hogan, Sales Mgr., / T. F. Whitmarsh, General Mgr.
- N. V. Hollandse Signaalapparaten, Zuidelijke Havenweg 40, Hengelo (0), Netherlands / 5850 / *C 59
Automatic weapon control systems, such as integrated naval weapon control systems, providing long range warning, aircraft control, target indication and fire control against air, surface and sub-surface targets; automatic air traffic control system SATCO; air defence systems / RMSa Ls(1800) Le (1922) DAICc
- Hoover Electronics Company, 110 W. Timonium Rd., Timonium, Md. / CLearbrook 2-4000 / *C 60
Magnetic amplifiers, A/D converters, telemetering systems and components / RMSa Ms(80) Se(1952) Ic
- HRB-Singer, Inc. (a subsidiary of the Singer Mfg. Co.), Science Park, State College, Pa. / ADam 7-7611 / *C 60
Data processing consulting; custom inventory control systems; special purpose analog and digital computers / RMSCa Ls(600) Se(1947) DAC
- Huck Co., 37 Wall St., New York 5, N.Y. — no response '59, '60
- Hughes Aircraft Co., Semiconductor Div., 500 Superior Ave., Newport Beach, Calif. / LIBerty 8-0671 / *C 60
Semiconductor devices / RMSCa Ls(2500) Se(1952) Ic
- Hughes Research and Development Laboratories, Hughes Aircraft Co., Culver City, Calif. — no response '59, '60
- Hycon Eastern, Inc. — name changed to Hermes Electronics Co., which see
- Hydro Molding Co., Inc., 100 Sharron Ave., Plattsburgh, N.Y. / 2598 / *C 59
Precision molded bobbins, screws and custom molded components; complete engineering and tool room facilities / RMSa Ms(90) Se(1949) Ic
- I**
- Imperial College, Mathematics Dept., Computer Section, Huxley Bldg., Exhibition Road, So. Kensington, London, England.
Automatic digital computers constructed and in operation / RMa Ss Le(1922) Dc
- Imtra Corp., 11 University Rd., Cambridge 38, Mass. / UNiversity 4-4350 / *C 60
Magnetic storage drums, importer / BA Ss(2) Se (1952) Ic
- Indiana Steel Products, Div. of Indiana General Corp., 405 Elm St., Valparaiso, Ind. / HOward 2-3131 / *C 60
Permanent magnets / RMSCa Ls(850) Le(1908) Ic
- Industrial Control Co., 805 Albin Ave., Lindenhurst L.I., N.Y. — no response '59, '60
- Industrial Development Engineering Associates, Inc., (I.D.E.A.) 7900 Pendleton Pike, Indianapolis 26, Ind. / LIBerty 7-3581 / *C 60
Components, readouts, digital and alpha-numeric / RMSa Ms(200) Me(1945) DIC
- Industrial Nucleonics Corp., 650 Ackerman Rd., Columbus 2, Ohio / AM 7-6351 / *C 60
AccuRay Process Control Systems, data reduction and readout systems / RMSa Ms(450) Me(1950) Cc
- Industrial Products-Danbury Knudsen Div., Amphenol-Borg Electronics Corp., 33 E. Franklin, Danbury, Conn. / Pioneer 3-9272 / *C 60
RF and R&P connectors; switches / RMa Ms(450) Le(1919 as Danbury Knudsen) Ic
- INDUSTRO TRANSISTOR CORPORATION**, 35-10 36th Ave., Long Island City 6, N.Y. / EXeter 2-8000 / *C 60
Industro Transistor Value Automatic Computer (ITVAC), a digital computer for testing transistors; also manufacture computer transistors / RMSa Ms (125) Se(1957) DIC
Charles A. Tepper, Pres. / Ira R. Becker, Gen'l. Mgr.
- INFORMATION SYSTEMS, INC.**, 7350 North Ridgeway Ave., Skokie, Ill. / ORchard 5-2500 / *C 60
General purpose digital computer and industrial information systems / RMSCa Ms(400) Se(1959) DCc
A. F. Sperry, Chairman of the Board / Gifford Johnson, President
- Institut Blaise Pascal, Laboratoire de Calcul Numérique, 25, Avenue de la Division Leclerc, Chatillon-sous-Bagneux (Seine), France / *C 60
Computing center using Elliott 402E, IBM 650, Bull Gamma — AET / RCPa Ss(25) Se(1957) Dc
- The Institute of Management Sciences, P.O. Box 273, Pleasantville, N.Y. / *C 60
Non-profit scientific society, publishers of quarterly journal "Management Science" / Se(1954) Ic
- Instrument Development Laboratories, Inc., 67 Mechanic St., Attleboro, Mass. / ATtleboro 1-3880 / *C 60
Digital converters, shaft angle; sampling switches, high speed; computers — analog, color. Research, development, production of precision components to customer order / RMSa Me(215) Me(1947) DAIC
- Instrument Society of America, 313 Sixth Ave., Pittsburgh 22, Pa. / ATLantic 1-3171 / *C 60
Professional and technical society serving the field of instrumentation, data handling, computation and automatic control systems. Publishes "ISA Journal" / PCa Ss(30) Me(1946) Ic
- Intelligent Machines Research Corp., 719 Edsall Rd., Alexandria, Va. — part of Farrington Electronics, Inc., which see

Intercontinental Dynamics Corp., 170 Coolidge Ave., Englewood, N.J. / LOwell 7-3600 / *C 59

Random noise electronic generator / RMSa Ss(45) Se(1956) Ic

International Business Machines Corp., 590 Madison Ave., New York 22, N.Y. / PLaza 3-1900 / *C 59

Punch card machines. IBM 650, magnetic drum computer. IBM 704, 705, and 709, automatic electronic computers with magnetic tape and magnetic core storage. IBM 632, electronic typing calculator. IBM 610, automatic decimal point computer. Electronic calculating punches 604 and 607. Accounting machines and data processing equipment, etc. / RMSa Ls(84,000) Le(1911) Ic

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., 112 E. Post Rd., White Plains, N.Y. / WHite Plains 9-1900 / *C 60

A complete line of data processing systems and equipment including the IBM 7070, 7080, 7090, 1401 and 1620 transistorized data processing systems; 704, 705, and 709 data processing systems; 650, 650 tape, RAMAC 650, and RAMAC 650 tape data processing systems; RAMAC 305 data processing systems; Series 1200 character sensing equipment; 604 and 607 calculators; Tele-processing equipment including the 357 Data Collection System, 7701 Magnetic Tape Transmission Terminal, and Data Transceivers, and a full range of punched card accounting equipment including the new low-cost Series 50-line / RMSa Ls(84,000) Le(1911) Ic

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International Diode Corp., 90 Forest St., Jersey City 4, N.J. / HEnderson 2-0242 / *C 60

Components-computer diodes / RMSa Ss(15) Se(1959) Ic

INTERNATIONAL RECTIFIER CORP., 233 Kansas St., El Segundo, Calif. / OREGon 8-6281 / *C 60

Semiconductor components including silicon and selenium diodes, rectifiers, silicon zener voltage regulators, controlled rectifiers, silicon solar cells, selenium photocells silicon photocell readout modules / RMSCa Ls(750) Me(1947) Ic
Eric Lidow, President / W. H. Atkinson, Marketing Mgr.

International Resistance Co., Computer Components Division, 401 N. Broad St., Philadelphia 8, Pa. / WALnut 2-2166 / *C 59

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 International Tel. & Tel. Corp., Industrial Products Div., 15191 Bledsoe St., San Fernando, Calif. / EMpire 7-6161 / *C 60
 Large screen oscilloscopes, monitors, and storage tube oscilloscopes for readout / RMSa Ms(300 — div.) Se(1955 — div.) Ic
 Itek Corp., 1605 Trapelo Rd., Waltham 54, Mass. / TWinbrook 3-8700 / *C 59
 Information retrieval devices and techniques; research and development in the field of information technology / RCGPa Ls(700) Se(1957) Ic
 ITT Federal Div., International Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J. / NOorth 7-3600 / *C 60
 Radar, Elm, and sonar simulators, missile, aircraft, guidance, radar and weapon system automatic check-out equipment / Ma Ls(4000) Le(1920) Ic

J

Jefferson Electric Co., 840 25th Ave., Bellwood, Ill. / MAnsfeld 6-7161 / *C 60
 Constant voltage and low voltage control transformers / Ma Ls(1600) Le(1915) Ic
 Jefferson Electronic Products Corp., 322 State St., Santa Barbara, Calif. — no response '59, '60
 Jet Propulsion Laboratory, California Institute of Technology, 4800 Oak Grove Drive, Pasadena 3, Calif. — no response '59, '60
 Johnson Electronics Inc., Highway 17-92, P.O. Box 1675, Casselberry, Fla. / MIdway 4-3311 / *C 59
 Precision electronic components in the coil field; development, design, prototypes; magnetic amplifiers, embedded assemblies and components / RMSCa Ms(80) Se(1951) Ic
 JONKER BUSINESS MACHINES, INC., 404 N. Frederick Ave., Gaithersburg, Md. / WIndsor 8-9203 *C 60
 Development and systems engineering of information retrieval systems and engineering data control systems. Manufacture and sales of "TERMATREX" search systems / RMSC(indexing services)a Ss(12) Se(1953) Ic
 Frederick Jonker, Pres. / Gerald J. Sophar, V.P.

K

Kaiser Metal Products, Inc., Briston, Pa. — no response '59, '60
 Kay Electric Co., Maple Ave., Pine Brook, N.J. / CA 6-4000 / *C 59
 Spectrum analyzers, sound spectographs, sweeping oscillators, plug-in circuits, test equipment, converters, generators, translating equipment, noise generators / RMSCa Ms(100) Me(1942) Ic
 KCS LIMITED, 20 Spadina Rd., Toronto 4, Ont., Canada / WAlnut 4-3381 / *C 60
 Management and technical consultants: electronic computing, data processing, operations research, economic surveys, statistical analyses, feasibility studies. Services: high speed computing, data processing, tabulating / RCPa Ss(50) Se(1954) Dc
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servo motors, synchros, resolvers, integrating tachometer generators; analog and digital computers / RMSa Ls(3000) Le(1916) DAISc
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 Management consultants, technical service in applications of electronic and other data processing equipment in industry, transportation, government and commerce / Ca Ls Le DAISCMc
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 Kelvin Electric Co., 5907 Noble Ave., Van Nuys, Calif. — no response '59, '60
 Kemtron Electron Products, Inc., 14 Prince Place, Newburyport, Mass. / HO 2-4464 / *C 59
 Semiconductor devices, components / RMSa Ms Se(1948) Ic
 Kepco, Inc., 131-38 Sanford Ave., Flushing 55, N.Y. / IN 1-7000 / *C 59
 Power supplies, voltage or current regulated; magnetic, transistorized, and vacuum tube types / RMSa Ms(100) Me(1946) Ic
 Ketay Dept., Norden, Div. of United Aircraft, Jericho Turnpike, Commack, L.I., N.Y. / FOrest 8-5500 / *C 60
 Synchros, resolvers, gyroscopes, servo motors, amplifiers, tachometers, potentiometers / RMSa Ls(700) Me(1944) ISc
 Walter Kidde & Company, Inc., 441 Main St., Belleville 9, N.J. / PLYmouth 9-5000 / *C 60
 Static relays, thermistors, varistors, static inverters, static converters, and solid state power supplies. Fire detecting and extinguishing equipment, special machine tool and factory automation / RMSCa Ls(1460) Le(1917) ICMc
 Kidde Ultrasonic & Detection Alarms, Inc., 441 Brighton Rd., Allwood Station, Clifton, N.J. / GRegory 2-5000 / *C 59
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 Kleinschmidt, Inc., Deerfield, Ill. — no response '59, '60
 The Walter S. Kraus Co., 48-02 43 St., Woodside 77, N.Y. / SStillwell 4-5922 / *C 60
 Electronic controls for addressing machines, exact spacing controls / RMSa Ss(22) Se(1942) Ic
 The Kybernetes Corp., Division of Self-Winding Clock Co., 75 Varick St., New York 13, N.Y. — no response '59, '60

L

Laboratory For Electronics, Inc., Computer Products Div., 1079 Commonwealth Ave., Boston 15, Mass. / ALgonquin 4-4235 / *C 59

HD (high density) file, magnetic drums and heads, magnetic bulk storage device for use with data processing or computer systems. SM symbol generator and viewer. Special digital systems designed to customer requirements. Advanced research in special devices and applied physics for the computer field. Computer components. Data processing and recording equipment. Digital computers. Information retrieval devices; photoelectric readers, printers, visual output devices / RMSa Ls(890) Me(1946) DMIC

Land-Air, Inc., Subsidiary of California Eastern Aviation, Inc., 7444 West Wilson Ave., Chicago 31, Ill. / UNderhill 7-7550 / *C 60

Computer service using Electronic Associates' 1631 analog computer and Bendix G-15 digital / RMSCa Ls(1500) Me(1946) DAC

Landis & Gyr, Inc., 45 W. 45th St., New York 36, N.Y. / JUdson 6-4644 / *C 59

Impulse counters, predetermining impulse counters, single decade impulse counters with auxiliary contacts / RMSa Ss(13 this company, over 9,000 in associated companies) Le(1926) Ic

Lanston Industries, Inc., 24th at Locust, Philadelphia 3, Pa. — no response '59, '60

Leeds & Northrup Co., 4907 Stenton Ave., Philadelphia 44, Pa. / DAvenport 9-04900 / *C 60

Analog and digital computers for electric power industry, recorders and indicators, transducers, data handling systems, digital process control computers, systems engineering / RMSa Ls(2900) Le(1889) DAICc

Lehigh University, Computing Laboratory, Packard Laboratory, Bethlehem, Pa. / UN 7-5071 ext. 355 / *C 60

Computing service using LGP-30 / RCP(training)a Ss(7) Se(1957) Dc

Harry Levinson Co., 1117 2nd Ave., Seattle, Wash. — no response '59, '60

Lewyt Mfg. Corp., Long Island City 1, N.Y. / EX 2-5050 / *C 59

Special purpose computing systems (analog and digital) for industry and military; digital display systems, amplifiers, automatic controls and equipment; integrators, correlators, electronic counters, multipliers; information converters of all types; inventory and magnetic storage systems; shift registers; character readers; cooling devices for memory cores and electronic components / RMSa ?s and ?e DAIC

Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / CItrus 4-6541 / *C 60

Digital and analog, general and special purpose computers, computer components, data processing systems, etc. LIBRATROL-500 and LIBRATROL-1000 industrial control computers; LGP-30 and RPC-4000 business and scientific computers / RMSa Ls(4000) Me(1937) DAIC

Librascope, Inc., Commercial Division, 100 East Tujunga Ave., Burbank, Calif. / VIctoria 9-6061 / *C 59

General purpose digital computers, industrial process control computers, shaft-to-digital encoders, magnetic drum memory systems, magnetic drums, read-record heads and amplifiers, X-Y plotters,

punched card/punched tape-to-plotter converters, mechanical sine wave generator, mechanical integrators, differentials, and sine-cosine mechanisms, miniature servos and servo amplifiers / RMSa Ms(250) Me(1946) DIC

Link Aviation, Inc., Binghamton, N.Y. / 3-9311 / *C 59
Flight simulators, analog computers, digital computers, digital/analog components and systems, servo-mechanisms, gear boxes, test equipment / RMSCa Ls(3000) Me(1934) DAIScC

Edwin A. Lipps Engineering, 1511 Colorado Ave., Santa Monica, Calif. / EXbrook 3-0449 / *C 60

Micro-magnetic instruments; magnetic tape recording and reading heads; consulting services; memory systems; magnetic tape readers / RMSCa Ss(150) Se(1948) Ic

Littelfuse, Inc., 1865 Miner St., Des Plaines, Ill. / VAnderbilt 4-1188 / *C 60

Fuses, fuse mountings, fuse posts and other circuit protective devices / RMSa Ms(475) Le(1927) Ic

Arthur D. Little, Inc., 15 Acorn Park, Cambridge 40, Mass. — no response '59, '60

Litton Industries, Components Div., 5873 Rodeo Rd., Los Angeles 16, Calif. — no response '59, '60

Litton Industries, Inc., 336 N. Foothill Rd., Beverly Hills, Calif. — no response '59, '60

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Loyola Laboratories, P.O. Box 90074 Airport Station (6415 W. 89th St.), Los Angeles 45, Calif. / OR 8-1686 / *C 60
Consulting. Sampling integrator (VANNUS I) built on request / RMCa Ss(3) Se(1956) Ic

M

The Magnavox Company, 2131 Bueter Rd., Fort Wayne, Indiana / E-9721 / *C 60

Analog-to-digital converters; analog and digital computers; data processing equipment; magnetic drums; magnetic and film data processing systems / RMSa Ls(5000) Le(1911) DAic

Magnetic Research Corp., 3160 W. El Segundo Blvd., Hawthorne, Calif. / OSborne 5-1171 / *C 59

Components / RMSa Ms(158) Se(1952) ICc

Magnetics, Inc., Box 230, Butler, Pa. / BUTler 7-1745 / *C 59

Tape wound cores of ultra-thin high-permeability materials, for computers, etc. / RMSa Ms(300) Se(1949) Ic

Magnetics Research Co., Inc., 255 Grove St., White Plains, N.Y. — no response '59, '60

P. R. Mallory & Co., Inc., 40 So. Gray St., Indianapolis 6, Ind. / MELrose 6-5353 / *C 60

Capacitors, plug-in and potted circuits, jack panels, potentiometers, rectifiers, relays, resistors, switches / RMa Ls(5000) Le(1916) Ic

Marchant Division of Smith-Corona Marchant Inc., 6701 San Pablo Ave., Oakland 8, Calif. / OLYmpic 2-6500 / *C 60

Automatic electric calculators (desk type) / RMSa Ls(2900) Le(1910) Ic

Markite Corporation, 155 Waverly Pl., New York 14, N.Y. / OREGon 5-1384 / *C 60

Rotary and rectilinear precision potentiometers, both functional and linear output, for computers and servo controls / RMSa Ms(320) Me(1946) Ic

Massachusetts Institute of Technology, Computation Center, 77 Massachusetts Ave., Cambridge 39, Mass. / UNiversity 4-6900 / *C 60

Computing service using IBM 704 (32,000 word magnetic core memory) and complete line of peripheral equipment / R(educational training)a Ms(50) Se(1957) DAC

Mathematische Centrum, 2e Boerhaavesstraat 49, Amsterdam, Netherlands — no response '59, '60

Mathematischer Beratungs- und Programmierungsdienst GmbH., Rechenzentrum Rhein-Ruhr, Kleppingstr. 26, Dortmund, Germany / 26353 (Dortmund) / *C 59

Consulting for all problems of data processing with punch card machines or electronic computers; problem analysis, organization of flow of data, programming problems on various computers, operations research / RCa Ss(21) Se(1957) DAic

Mauchly Associates, Inc., 50 E. Butler Ave., Ambler, Pa. / MI 6-0181 / *C 59

Recognition, formulation, and solution of technical and operational problems; computer programming and systems analysis / Ca Ss(6) Se(1959) DAic

Maurey Instrument Corporation, 7917 S. Exchange Ave., Chicago 17, Ill. / REgent 1-1717 / *C 60

Potentiometers: precision, single-turn, wirewound, linear, non-linear, / RMSCa Ms(66) Se(1953) Ic

The W. L. Maxson Corp., 475 Tenth Ave., New York 18, N.Y. / LONGacre 5-1900 / *C 60

Amplifiers, magnetic amplifiers, automatic control equipment, plotting boards, computers, digital computers, digital computing services, analog to digital converters, fire control equipment, regulated power supplies, analog computers, servo mechanisms, and telemetering systems / RMa Ls(1456) Me(1935) DAic

H. B. Maynard & Co., Inc., 718 Wallace Ave., Pittsburgh 21, Pa., also other cities in USA and abroad / FREmont 1-9600 / *C 59

Management consultants. Feasibility studies, operations research, linear programming applications, cost reduction programs, management controls, office work measurement and controls, office methods improvement, training in office methods and systems / RCPa Ms Me(1934) DAICc

Measurement Engineering Ltd., 232 John St., Arnprior, Ontario, Can. — no response '59, '60

Mellon Institute of Industrial Research, Multiple Fellowship on Computer Components, University of Pittsburgh, Pittsburgh 13, Pa. — no response '59, '60

Metron Corp. — name changed to Taurus Corp., which see

Micro Instrument Company, 80 Trowbridge St., Cambridge 38, Mass. / KIRkland 7-8660 / *C 59

Toroid transformers, toroid inductors; ferrite core units for computers, etc. / RMSa Ss(20) Me(1934) Ic

Micro Switch, a Div. of Minneapolis-Honeywell Regulator Co., 11 W. Spring St., Freeport, Ill. / ADams 2-1122 / *C 59

Lighted pushbutton switches, snap-action and mercury switches for use in computers and other business machines / RMSa Ls(2400) Me(1937) Ic

Microtran Co., Inc., 145 E. Mineola Ave., Valley Stream, N.Y. / LO 1-6050 / *C 59

Miniature audio and transistor transformers. Transformers designed to customer specifications / RMSa Ms(60) Se(1950) Ic

Microtech Research Co., 639 Massachusetts Ave., Cambridge 39, Mass. / UN 8-8050 / *C 60

Problem formulation, programming and solution on any type of analog or digital computer / RCa Ss(30) Se(1956) DAC

Mid-Century Instrumatic Corp., 611 Broadway, New York 12, N.Y. — name changed to Computer Systems, Inc., which see

Midwest Research Institute, 425 Volker Blvd., Kansas City 10, Mo. / LOgan 1-0202 / *C 59

Studies in application of digital and analog computers to business and scientific problems; mathematical analysis and computation; computing service; consulting service; contract research; economics research; operations research; systems engineering / RCPa Ms(300) Ms(1945) Ic

Miles Reproducer Co., Inc., 812 Broadway, New York 3, N.Y. / SPRing 7-7670 / *C 60

Self-powered miniature sound recorder-reproducer.

Conference recorders, briefcase recorders-reproducers, telephone recorders-reproducers, permanent recorders (non-magnetic). Controls, automatic and signaling; magnetic drums; magnetic reading and recording heads; memory systems; mechanical readers; magnetic tape recorders; paper tape readers / RMSa Ms(60) Le(1924) Ic

H. JEFFERSON MILLS, JR., MANAGEMENT CONSULTANT, 122 East 42nd St., New York 17, N.Y. / YUkon 6-1385 / *C60

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(1954) DIC
H. Jefferson Mills, Jr., Principal

Minneapolis-Honeywell Regulator Co., Boston Div., 40 Life St., Boston 35, Mass. / ALgonquin 4-5200 / *C60

Linear accelerometers, electronic test equipment, d-c data handling amplifiers and preamplifiers, d-c null indicators, precision temperature control units, and synchros / RMSa Ls(1000) Le(1886) S1c

Minneapolis-Honeywell Regulator Co., Davies Labs. Division, 10721 Hanna St., Beltsville, Md.—See Minneapolis-Honeywell Regulator Co., Industrial Systems Div.

Minneapolis-Honeywell Regulator Co., Florida Inertial Guidance Center, 13350 U.S. Highway 19, St. Petersburg, Fla. / HEmlock 5-1151 / *C59

Inertial guidance systems, inertial platforms, digital computers, analog computers, gyros and accelerometers, digital computers for aircraft or missiles. Packaged computer logic circuits; computer ground checkout and drum loading equipment; analog to digital converters, drums and memory systems; input-output devices / RMSa Ls(620) Se(1957) DA1c

Minneapolis-Honeywell Regulator Co., Industrial Div., 4580 Wayne Ave., Philadelphia 44, Pa. / DAvenport 9-8300 / *C60

Honeywell 290 digital computer for industrial process control. Automatic controllers. Brown instruments. Servo components used in computers. Recording and indicating instruments and control equipment, etc. Amplifiers, converters, balancing motors, potentiometers, recording papers, load and frequency control systems, data handling systems with computing functions, nuclear reactor control systems and simulators, telemetering and supervisory control systems / RMSa Ls(3200) Le(1859) ACc

Minneapolis Honeywell Regulator Co., Industrial Systems Div., 10721 Hanna St., Beltsville, Md. / Granite 4-6700 / *C60

Magnetic tape products; systems and techniques for data acquisition, reduction and analysis; recorders and transcribers of digital data; analog to digital converters; magnetic reading and recording heads; magnetic tape readers and recorders / RMSa Ms(400) Se(1956) DIC

Minnesota Mining and Manufacturing Co., 900 Bush Ave., St. Paul 6, Minn. / PR 6-8511 / *C60

Magnetic instrumentation tape and accessories / RMSa Ls(19,000) Le(1902) Ic

Minute Maid Corporation, Data Processing Div., 1200 E. Colonial Drive, Orlando, Florida / GA 4-2225 / *C59

Office system and management services, including service bureau for converting paper tape to cards and processing IBM cards / Ca Ss(20) Se(1957) Ic

Monarch Metal Products, Inc., MacArthur Ave., New Windsor (Newburgh), N.Y. / JOhn 2-3100 / *C60

Data processing auxiliary equipment and tape handling and storage equipment / RMSa Ms(65) Me(1945) Ic

Monitor Systems Inc., Ft. Washington Industrial Park, Ft. Washington, Penna. / MI 6-8100 / *C60

Systems as follows: (1) data reduction (2) monitoring (3) checkout (4) production test / MSa Ss(35) Se(1959) Ic

Monroe Calculating Machine Co., 555 Mitchell St., Orange, N.J. / OR 3-6600 / *C59

Adding machines, desk calculators, automatic electronic digital computers, data processing machines and components, magnetic drum storage systems, tape punch equipment, magnetic read-record heads, modular drums / RMSa Ls(4100) Le(1911) DIC

Monroe Industries, Inc., 930 36th St. S.E., Grand Rapids 8, Mich. / CH 1-3648 / *C60

Edge lighted panels, lighted plastic assemblies for read-out displays, dials, read-out windows / Ma Ms(60) Se(1953) Ic

THE MOORE SCHOOL OF ELECTRICAL ENGINEERING, University of Pennsylvania, Philadelphia 4, Pa. / EVergreen 6-0100 / *C60

Computer service: types of computers— analog (Electronic Associates 31R, 131R); analog (mechanical differential analyzer); digital (Univac I) / RCa Ms(125) Le(1923) DAC

Prof. John G. Brainerd, Director / Prof. Saul Gorn, Chairman, Computer and Information Sciences Curriculum

Moran Instrument Corporation, 170 E. Orange Grove Blvd., Pasadena 3, Calif. / SY 6-7158 / *C60

Shaft position digitizers, analog digitizers, resolution multipliers, calibrators, regulated high voltage power supply, radiation measurement equipment, radar survey equipment, radar navigation equipment, servo data printer / MSa Ss(16) Me(1949) Ic

F. L. Moseley Co., 409 No. Fair Oaks, Pasadena, Calif. / Ryan 1-0208 / *C59

X-Y recorders (with time base); card and tape translators; logarithmic amplifiers; digital voltmeters; curve followers, computer accessories / RMSa Ms(125) Se(1950) Ic

Motorola, Inc., Semiconductor Products Division, 5005 E. McDowell Rd., Phoenix, Arizona / BRidge 5-4411 / *C60

Transistors, rectifiers, zener diodes / RMSa Ls(1500) Se(1954) Ic

National Analysts, Inc., 1015 Chestnut St., Philadelphia 7, Pa. — no response '59, '60

National Bureau of Standards, Applied Mathematics Division, Washington 25, D.C. / EMerson 2-4040 / *C60
Computing service, using IBM 704, for government and government contractors only / RGPCa Ms(80) Me(1947) Dc

National Bureau of Standards, Data Processing Systems Division, Washington 25, D.C. / EMerson 2-4040 / *C60

Digital and analog computers, data processing and control systems, input-output devices, storage elements, transistors, diodes, delay lines, etc. (for government only). Designed, assembled, and maintain and use Seac; designed and assembled Dyseac; designed several special purpose machines / RMBGa Ms(95) Me(1946) DAc

THE NATIONAL CASH REGISTER CO., Main & K Sts. Dayton 9, Ohio / BALdwin 6-1411 / *C 60

NCR 304 electronic data processing systems; electronic bank posting machines; punched paper tape recorders; card punch couplers; input-output devices; digital computers; magnetic cores / RMSa Ls(40,000) Le(1884) Ic

The National Cash Register Co., Electronics Division, 1401 East El Segundo Blvd., Hawthorne, California — no response '59, '60

National Co., Inc., 61 Sherman St., Malden 48, Mass. — no response '59, '60

National Data Processing Corp., 4703 Ross Ave., P.O. Box 122, Dallas 21, Texas / TAylor 7-5021 / *C 60

Optical and magnetic character recognition. High speed tonal wire transmission. Teletype to magnetic tape converters. Tape and card readers. Portable and stationary digital recorders. Bank automation equipment. Special purpose computers / RMSa Ms(125) Se(1957) DIc

National Moldite Co., 250 South St., Newark 5, N.J. — no response '59, '60

National Physical Laboratory, Mathematics Div., Teddington, Middlesex, England / TEDdington Lock 3222 / *C 60

Computing service using DEUCE and ACE. Digital and punched card / RCPa Ms(60) Me(1945) Dc

National Union Electric Corp., Electronics Div., Bloomington, Ill. / 7-6041 / *C 59

Special purpose electron tubes / RMSa Ls(over 500) Le(1922) Ic

Navigation Computer Corp., 1621 Snyder Ave., Philadelphia 45, Pa. / HOward 5-7700 / *C 60

Two complete lines of transistorized digital systems modules / MSa Ms(60) Se(1955) Dc

New London Instrument Co., Inc., 82 Union St., New London, Conn. / GIBson 3-8451 / *C 60

Analog computers / RMa Ss(26) Me(1949) Ac

The Newton Co., 55 Elm St., Manchester, Conn. / MITchell 3-5104 / *C

Data processing equipment. Analog to digital converters; simulators; automatic typewriters / RMSa Ms(150) Se(1947) DIc

NJE CORPORATION, 20 Boright Ave., Kenilworth, N.J. / BR 2-6000 / *C 60

Electronic power supplies / RMa Ms(150) Se(1955) Ic

NON-LINEAR SYSTEMS, INC., Del Mar Airport, Del Mar, Calif. / SKYline 5-1134 / *C 60

Digital voltmeters, ohmmeters, ratiometers; oscillogram trace readers, precision wirewound resistors, 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 / RMSa Ms(240) Se(1952) DAic
A. F. Kay, pres. / R. C. Wynne, V.P., Sales

Norden Div. of United Aircraft Corp., 58 Commerce Rd., Stamford, Conn. / DAvis 5-2611 / *C 60

Analog digital converters / RMa Ls(2400) Le(1928) Dc

Northam Electronics, Inc. — name changed to Borg-Warner Controls, Div. of Borg-Warner Corp., which see

North Electric Company, 553 S. Market St., Galion, Ohio / HO 8-2420 / *C 59

Data processing and computer systems, automatic controls, switching centrals and related components, switches, relays / RMSCa Ls(1500) Le(1884) Ic

Northrop Aircraft, Inc., Dept. 3330, Hawthorne, Calif. — no response '59, '60

NORTON ASSOCIATES, INC., 240 Old Country Rd., Hicksville, N.Y. / OVerbrook 1-6181 / *C 60

Magnetic reading and recording heads, memory systems, magnetic drums, digital computing services, design services in instrumentation and applications. Design and manufacture of 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 / RMSa Ic
R. S. Norton, Ch. Eng.

Notifier Corp., 239 S. 11th St., Lincoln 8, Neb. — no response '59, '60

Nuclear Development Corporation of America, 5 New St., White Plains, N.Y. / White Plains 8-5800 / *C 60

Burroughs 205 with magnetic tapes. IBM tab equipment. Mathematical analysis, programming, coding, computing, systems analysis, on an hourly or per job basis / RCPa Ms(250) Me(1948) Dc

Numerical Analysis Center, University of Colorado, Boulder, Colo. / HI 3-2211, Ext. 7255 / *C 60

Teach numerical analysis, programming, etc. Computation for people on campus who have need for such service / RPa Ss(5) Se(1958) Ic

O

Ohmite Manufacturing Co., 3692 Howard St., Skokie, Ill. / — no response '59, '60

Olivetti Corp. of America, 375 Park Ave., New York 22, N.Y. / PLaza 1-5333 / and Ing. C. Olivetti & Co., S. P. A., Ivrea, Italy / *C 59

Single and duplex register adding machines. Single and dual register printing calculators / RMSa Ls(24,000) Le(1908) Dc
 Opad Electric Co., 43 Walker St., New York 13, N.Y. / WOrth 6-0380 / *C 59
 AC & DC power supplies, voltage and current regulators, specialized test equipment, automatic controls; sorting and counting controls; power frequency electrical converters; rectifiers / RMSa Ss Me(1947) ICc
 Orradio Industries — name changed to Ampex Magnetic Tape Products, a Div. of Ampex Corp., which see
 Ortho Filter Corp., 196 Albion Ave., Paterson 2, N.J. — no response '59, '60
 John Oster Mfg. Co., Avionic Div., One Main St., Racine, Wisc. / MELrose 7-4445 / *C 60
 Servos, synchros, resolvers, DC motors, servo mechanisms, servo torque units, motor-tachometers, computers, indicators / RMSa Ls(1100) Le(1924) Ic
 Otis Elevator Co., Defense & Industrial Div., 35 Ryerson St., Brooklyn 5, N.Y. / ULster 5-6800 / *C 59
 Analog computers; peripheral equipment / RMSa Ms(450) Le(1853) AIC
 Owen Laboratories Inc., 55 Beacon Place, Pasadena, Calif. / MU 1-6901 / *C 60
 Custom power supplies, both high-current and high-precision. Industrial electronic instruments / RMSa Ss(20) Se(1948) Ic

P

Pacific Magnetic Corporation, Electronic Center, Romoland, Calif. / OLYmpia 7-2637 (Perris Exchange) / *C 59
 Logic type magnetic amplifiers, transformers, power supplies, toroids; fault-finding systems, using logic type magnetic amplifiers / RMSa Ss(15) Se(1958) Ic
 Pacific Semiconductors, Inc., 10451 W. Jefferson Blvd., Culver City, Calif. — no response '59, '60
PACKARD BELL COMPUTER CORP., a subsidiary of Packard-Bell Electronics Corp., 1905 Armacost Ave., Los Angeles 24, Calif. / GRanite 8-4247 / *C 60
 Voltage to digital and digital to voltage converters, and associated power supplies; multiplexers, sampling, holding, etc.; high speed digital computer; hybrid digital-analog computing devices; differential analyzers; communications systems; combinatorial techniques for digital computers; real time incremental computers; electronic integrators; non-linear function generators for analog computers / RMSa Ms(200) Se(1957) DAc
PANELIT—A DIVISION OF INFORMATION SYSTEMS, INC., 7401 No. Hamlin Ave., Skokie, Ill / ORchard 5-2500 / *C 60
 Coordinated controls centers; annunciators and alarm systems, electrical control panels, benches and switchboards / Ma Ms(330) Me(1944) Ic
 Walter P. Hooper, Exec. Vice Pres. / Howard W. Hudson, Vice Pres.
 The Ralph M. Parsons Co., Electronics Div., 151 S. De Lacey Ave., Pasadena, Calif. / (Los Angeles), MURray 1-0461 / *C 60

Systems engineering, and manufacturing of electronic instrumentation, telemetry, timing systems, miss-distance indicators, precision delay lines, and precision transponders / RMSa Ms(200) Se(1952) Ic
 PCA Electronics Inc., 16799 Schoenborn St., Sepulveda, Calif. / EMpire 2-0761 / *C 59
 Pulse transformers and delay lines, pulse generator test equipment / RMSa Ms(100) Se(1950) Ic
 PDP Div. of American Electronics, Inc. — name changed to Data Systems Division, American Electronics, Inc., which see
 Pennsylvania State University, X-ray and Crystal Structure Lab., Dept. of Physics, University Park, Pa — no response '59, '60
 Perkin Elmer Corp., Electro-Optical Div., Main Ave., Norwalk, Conn. / VICTor 7-2423 / *C 59
 Recording missile track systems, infrared systems, laboratory analytical instruments, precision optics, analog computers, potentiometers, special electronic-optical systems / RMSa Ls(1100) Me(1936) AIC
 Phaostron Instrument and Electronic Co., 151 Pasadena Ave., South Pasadena, Calif. / CLinton 5-1471 / *C 60
 Electric panel meters, test instruments, portable laboratory standards, relays / RMSa Ms(450) Me(1937) Ic
 George A. Philbrick Researches, Inc., 285 Columbus Ave., Boston 16, Mass. / COMmonwealth 6-5375 / *C 60
 Electronic analog computers; computer components; computer packaged circuits; operational amplifiers; regulated power supplies; computing services, electronic function generators; electronic integrators, electronic multipliers; multiple-channel precision oscilloscopic displays / RMSa Ms(100) Me(1946) AIC
PHILCO CORP., GOVERNMENT AND INDUSTRIAL GROUP, 4700 Wissahickon Ave., Philadelphia 44, Pa. / VICTor 3-400 / Computer Div., 3900 Welsh Rd., Willow Grove, Pa. / OLdfield 9-7700 / *C 60
 Philco 2000 all-transistor, large-scale data processing systems, electronics systems in communications scientific systems, closed-circuit TV, microwave and military products; digital computers; digital computing services. Card to magnetic tape, card to paper tape, magnetic tape to paper tape, magnetic tape to card, converters. High-speed printers; high-speed card punch; high-speed card readers; in-circuit transistor testers; visual display devices; air traffic control systems; data processing machinery; fire control equipment / RMSCa Ls(over 6000) Le 1892) DIC
 J. Hertzberg, Vice President of Marketing, Government and Industrial Group / John M. Nisbet, Marketing Mgr., Computers
PHILCO CORP., LANSDALE DIV., Church Rd., Lansdale, Pa. / ULysses 5-4681 / *C 60
 Transistors: micro alloy (MAT®) micro alloy diffused base (MADT®) silicon alloy (SAT®) silicon alloy diffused base (SADT®) surface barrier (SBT®); also Ge and Si semiconductor diodes, tunnel diodes (* Philco trademark) / RMSa Ls Me Ic
 Wm. J. Peltz, V.P. and Gen'l. Mgr. / C. H. Warshaw, Dir. of Mktg.

PHILCO TECHNOLOGICAL CENTER, P.O. Box 4730, Philadelphia 34, Pa. / NE 4-5100 / *C 60

Computer and transistor correspondence study courses / S(Education)a Ss(25) Se(1957) Ic
R. R. Robinson, Managing Dir. / N. P. Dewees, Advts. and Sales Promotion Mgr.

Philips Electronic Instruments, 750 S. Fulton Ave., Mount Vernon, N.Y. / MOUNT VERNON 4-4500 / *C 60

X-ray diffractometer, x-ray spectrograph instruments, x-ray cameras, x-ray plating thickness gauges; Geiger, proportional, scintillation detectors; industrial radiography equipment, electron microscopes, x-ray microscopes, x-ray microradiograph equipment, x-ray product control instruments / RMSCa Ms(350) Me(1942) Ic

Phillips Control Corp., 59 Washington St., Joliet, Ill. / Saratoga 3-3431 / *C 60

Digital and analog computers / RMSa Ms(500) Me(1947) DAIC

Photon, Inc., 58 Charles St., Cambridge 41, Mass. / UNIVERSITY 4-8400 / *C 60

Machinery for composing type by photography / RCMSa Ms(100) Me(1940) DIC

Pi-Square Engineering Co., Inc., 127 Clarendon St., Boston 16, Mass. / COMMONWEALTH 6-5375 / *C 59

Analysis and solution of engineering problems. Computing services. Analog computing equipment available / RCPa Ss(?) Se(1954) ASCc

Plastic Capacitors, Inc., 2626 No. Clybourn Ave., Chicago 14, Ill. / DIVERSEY 8-3735 / *C 60

Capacitors, power supplies and pulse forming networks / Ma Ms(100) Se(1952) Ic

Polyphase Instrument Co., East 4th St., Bridgeport, Montgomery County, Pa. / BROADWAY 9-4660 / *C 59

Pulse and specialty transformers; magnetic components; delay lines; magnetic amplifiers; breadboard kits; potted circuits; computer type coils / RMSa Ms(80) Se(1948) Ic

Potter & Brumfield, div. of Amer. Machine & Foundry Co., Princeton, Ind. / FULTON 5-5251 / *C 60

Telephone-type and micro-miniature electromagnetic relays for computers / Ma Ls(1500) Me(1933) Ic

POTTER INSTRUMENT COMPANY, INC., Sunnyside Blvd., Plainview L.I., N.Y. / OVERBROOK 1-3200 / *C 60

Peripheral equipment for computers and data handling equipment / RMSa Ms(300) Me(1945) Ic
John T. Potter, Pres. / Edward D. Gray, Vice Pres.

Purdue University, Statistical and Computing Lab., Engineering Administration Bldg., Lafayette, Ind. / 92-2703 / *C 60

Statistical and computing services / RCPa Ms(75) Se(1948) Dc

Q

Outronic Semiconductor Corp., 525 Broadway, New York 12, N.Y. — no response '59, '60

R

Radiation Counter Laboratories, Inc., 5121 N. Grove St., Skokie, Ill. — no response '59, '60

Radiation Incorp., P.O. Box 37, Melbourne, Fla. / PARKWAY 3-1511 / *C 60

Research; ground-air telemetry and data link systems; computer input systems and equipment (data ing, converting); computer output systems and processing, programming, communication translation equipment (recorders and printers) / RMS(service company)a Ls(2000) Se(1950) Ic

Radio Corp. of America, Electron Tube Div., 415 S. Fifth St., Harrison, N.J. / HUMBOLDT 5-3900 / *C 60

Computer tubes, direct view storage tubes, scan-conversion tubes, photoconductive cells / RMSa Ls(?) Le(?) Ic

RADIO CORP. OF AMERICA, ELECTRONIC DATA PROCESSING DIV., Front & Cooper Sts., Camden 2, N.J. / WOODLAWN 3-3800 / *C 59

General purpose electronic data processing systems / RMSa Ls(78,000) Le(1919) Ic

Radio Corp. of America, Precision Electronic Instruments Div., Building 15-1, Camden, N.J.

Magnetic tape recorders / RMSa Ic

RADIO CORP. OF AMERICA, SEMICONDUCTOR AND MATERIALS DIV., Route 202, Somerville, N.J. / RANDOLPH 2-3200 / *C 60

Transistors, silicon rectifiers, ferrite devices and micromodules / RMS(complete application engineering service)a Ls(?) Le(?) Ic

Radio Receptor Co., subsidiary of General Instrument Corp., 240 Wythe Ave., Brooklyn, N.Y. / EVERGREEN 8-6000 / *C 59

Selenium rectifiers, power supplies / RMSa Ls(640) Le(1922) Ic

RAMO-WOOLDRIDGE, a division of Thompson Ramo Wooldridge, Inc., 5500 W. El Segundo Blvd., Los Angeles 45, Calif. / OREGON 8-0511 / *C 59

R-W 300 digital process control computer. Airborne digital computers and systems; digital instrumentation and data handling systems. Computation and data reduction center. See also Thompson-Ramo-Wooldridge Products Co. / RMSCa Ls(3400) Se(1953) Dc

R. P. Johnson, V.P. and Gen. Mgr.

The Rand Corporation 1700 Main St., Santa Monica, Calif. — no response '59, '60

Rank Precision Industries, Ltd., Electronics Dept., Sulgrave Rd., Hammersmith, London, W. 6, England / *C 60

High speed computer output printer / RMSa Ic

Ransom Research, Inc., P.O. Box 269, 374 West Eighth St., San Pedro, Calif. / TERMINAL 2-1128 / *C 60

Consulting and computing services; manufacture of digital systems, computing and logical control systems to customer specifications; converters; counters. Joint research and development programs with customers / RMa Ss(25) Se(1955) DACc

Raytheon Company, Industrial Components Division, 55 Chapel St., Newton 58, Mass. / BIGELOW 4-7500 / *C 60

Reliable miniature and subminiature electron tubes, high density modules, miniaturized light indicators, decade counters, magnetostriction filters, panel knobs and hardware, recording storage tubes and special cathode ray tubes, electrostatic printer tubes for computer output data / RMSCa Ls(2500) Le(1926) Ic

- Raytheon Co., Semiconductor Div., 215 First Ave., Needham Heights 94, Mass. / HILLcrest 4-6700 / *C 60
Silicon transistors for switching, computer, AF, RF, and general purpose use; germanium transistors; silicon and germanium diodes, silicon junction diodes, germanium point contact and gold bonded diodes for switching, computer and general purpose use; silicon rectifiers; silicon rectifiers. Plug-in, wire-in, solder-in, compact, encapsulated semiconductor circuit modules / RMSa Ls(over 40,000) Le(1922) Ic
- J. B. Rea Co., Inc., Electronics Division, 2202 Broadway, Santa Monica, Calif. / EX 3-3768 / *C 59
Readix digital computer; analog to digital converter, magnetic drums; magnetic reading and recording heads; automatic data handling systems, tape handlers; research and development; memory systems; 60 and 400 cycle voltage stabilizers / RMSCa Ss(30) Se(1951) DAICc
- Recording and Statistical Corporation, 100 Sixth Ave., New York 13, N.Y. — no response '59, '60
- Reeves Instrument Corp., Roosevelt Field, Garden City, N.Y. / PIoneer 6-8100 / *C 60
Analog computers and systems, analog-to-digital and digital-to-analog converters, gyros, resolvers, servo mechanism system, radar & guidance systems, computing services, data recording equipment, computers for simulation, automation and control, differential analyzers, electronic integrators / RMSa Ls(1600) Me(1942) AIC
- REEVES SOUND CRAFT CORP., 15 Great Pasture Rd., Danbury, Conn. / PI 3-7601 / *C 60
Magnetic recording tapes for all computer instrumentation, and industrial applications / RMSCa Ms(200) Me(1946) Ic
- The Reflectone Corp., 639 W. Main St., Stamford, Conn. — no response '59, '60
- Reinhold Book Div., Reinhold Publishing Corp., 430 Park Ave., New York 22, N.Y. / MU 8-8600 / *C 60
Technical books on the subjects of computers, automation, automatic control and electronics / Ss(40) Le(1926) Ic
- Remington Rand Division of Sperry Rand Corp., 315 Park Ave. So., New York 10, N.Y. / SPring 7-8000 / *C 60
Digital electronic computing systems (Univac), computing services, office machines, and systems / RMSa Ls(8000) Le(1876) DIC
- Rensselaer Polytechnic Institute, Computer Laboratory, Troy, N.Y. — no response '59, '60
- Reon Resistor Corp., 155 Saw Mill River Rd., Yonkers, N.Y. / YOnkers 5-9850 / *C 60
Precision wirewound resistors, composition variable resistors / MSa Ms(75) Se(1952) Ic
- Rese Engineering Inc., 731 Arch St., Philadelphia 6, Pa. / WAlnut 2-5841 / *C 60
Memory devices, core test equipment, data processors / Ma Ms(90) Se(1953) Ic
- Resistance Products Company, 914 S. 13th St., Harrisburg, Pa. / CEdar 6-5081 / *C 60
Resistors: wire wound, high voltage, high frequency, high megohm, metal film & resistance networks / Ma Ms(352) Me(1947) Ic
- The Rex Corp., subsidiary of American Enka Corp. — name changed to William Brand-Rex Div., American Enka Corp., which see
- Rich Electronic Computer Center, Engineering Experiment Station, Georgia Institute of Technology, 225 North Ave., N.W., Atlanta 13, Ga. / TRinity 4-6331 — Ext. 223 / *C 60
Computing service: Univac Scientific (ERA 1101), Burroughs 220, IBM 650, analog / RCa Ss(35) Se(1955) DAC
- Richardson Camera Co., Inc., 2526 North Ontario St., Burbank, Calif. / VICToria 9-4637 / *C 60
Custom design, engineering and manufacturing services for products applicable to the use of film. Proprietary items include various models of film readers, projectors, precision film transports for sizes from 16mm to 140mm and electronic counters for display and recording of information acquired by data film. Translation of this information may be in standard computer formats such as perforated tape, punched cards, electric typewriter, etc. / RMSCa Ss(30) Me(1937) Ic
- Rotron Manufacturing Company, Inc., Schoonmaker Lane, Woodstock, N.Y. / ORiole 9-2401 / *C 60
Cooling equipment, fans, and blowers for flushing computer consoles, cabinets and boxes / RMSa Ms(375) Me(1949) Ic
- Royal Electric Corp., 95 Grand Ave., Pawtucket, R.I. / PAwtucket 2-8600 / *C 60
Coaxial cable, insulated wire, power supply cords, grasshopper fuses, wiring devices / MSa Ls(1000) Le(1920) Ic
- Royal-McBee Corp., Westchester Ave., Port Chester, N.Y. / WESTmore 7-3000 / *C 60
Royal Precision electronic computers and data processing systems / Sa Ls(8000) Se(1954) Dc
- Rutherford Electronics Co., 8944 Lindblade St., Culver City, Calif. / VERmont 7-5273 / *C 60
Electronic test equipment. Pulse instrumentation, pulse generators, accurate time delay generators / RMSa Ms(80) Se(1950) Ic

S

- Sage Electronics Corp., One Country Club Rd., P.O. Box 3926, East Rochester 10, N.Y. / LUdlow 6-8010 / *C 60
Wirewound, precision, power resistors / RMSa Ms(65) Me(1948) Ic
- Sanborn Company, 175 Wyman St., Waltham, Mass. / TWinbrook 4-6300 / *C 60
Analog computer readouts, data preamplifiers / Ma Ls(1000) Le(1917) Ic
- Sangamo Electric Co., Springfield, Ill. / KI 4-6411 / *C 59
Capacitors, inductive components, magnetic tape transports and record/reproduce systems / RMSa Ls(4,500) Le(1899) Ic
- Saunders & Co., 8 Prospect St., Waltham 54, Mass. / TW 4-6071 / *C 60
Manufacturers representatives (instructions, components, mechanisms) / Sa Ss(3) Ss(1954) Ic

- Scientific Computing Service, 23 Bedford Square, London W. C. 1, England / MUseum 0808 / *C 60
 Problem solving, mathematical and statistical consulting. Digital computing service / RCPa Ss(15) Me(1937) DIc
- Seismograph Service Corp., 6200 E. 41st St., P.O. Box 1590, Tulsa, Okla. — no response '59, '60
- The Service Bureau Corp., Subsidiary of International Business Machines Corp., 425 Park Ave., New York 22, N.Y. / — / *C 60
 Computing and data processing service using all models and types of International Business Machines Corp. machines, including IBM Magnetic Drum Calculators 650 and IBM Electronic Data Processing Machines 704 and 705. Comprehensive facilities (including programming) for all applications. Data processing centers with 650's in Baltimore, Boston (705 and 650), Chicago, Cleveland, Detroit, Houston, Kansas City, Los Angeles (705 and 650), Minneapolis, New York (704 and 650), Philadelphia, Pittsburgh, St. Louis, Seattle, San Francisco, and Washington, D.C. / RCPa Ls(500) Se(1957, separate corp.; over 30 years div. IBM) DAc
- Servo Corp. of America, 2020 Jericho Turnpike, New Hyde Park, N.Y. — no response '59, '60
- Servomechanisms, Inc., Post and Stewart Sts., Westbury, L.I., N.Y. / EDgewood 4-2700 / also 12500 Aviation Blvd., Hawthorne, Calif. / OSborne 5-7111 / *C
 Automatic electronic and electro-mechanical control systems and components, analog computers, instrumentation. Airborne digital computers, digital transducers / RMSa Ls(800) Se(1946) ASICc
- Shallcross Manufacturing Co., Jackson & Pusey Avenues, Collingdale, Pa. — no response '59, '60
- Shand and Jurs Co., 2600 Eighth St., Berkeley 10, Calif. / THornwall 8-2345 / *C 60
 Dataloggers, telemetering systems, data-handling equipment / RMSa Ms(175) Le(1920) Ic
- Shepard Laboratories, Inc., Broad St. at Park Ave., Summit, N.J. / CRestview 3-5255 / *C 59
 High-speed input-output accessories for data processing systems (typers, decoders, tape transports, electronic splicers) / RMSCa Ss(40) Me(1944) DIc
- Short Brothers and Harland Ltd., Montgomery Rd., Castlereagh, Belfast, N.I. — no response '59, '60
- F. W. SICKLES DIVISION, GENERAL INSTRUMENT CORP., 165 Front St., Chicopee, Mass. / LYceum 4-4781 / *C 60
 Computer components; electromagnetic delay lines, lumped constant & distributed constant, fixed and variable step; audio & ultrasonic filters; toroidal inductors; embedded assemblies; L-C tuned circuits; etc. / RMSa Ls(2500) Le(1921) Ic
 E. Messing, V.P. & Gen. Mgr. / H. S. Chapman, Sales Mgr., Gov't. & Ind. Prod.
- Sigma Instruments, Inc., 170 Pearl St., S. Braintree 85, Mass. / VICTor 3-5000 / *C 59
 Sensitive, polarized, keying, latching, photoelectric, high release, magnetic amplifier, relays; synchronous stepping motors; relay test sets / RMSa Ls(750) Me(1935) Ic
- N. E. Slavin & Co., 38-40 E. Cross St., Somerville 45, Mass. / MO 6-3320 / *C 60
- Producers stainless steel shim stock / MSa Ss(6) Me(1945) Ic
- Smith-Corona Marchant Inc., 701 E. Washington St., Syracuse 1, N.Y. / GRanite 6-9911 / *C 60
 Data processing and recording systems for special applications; communications systems for data processing systems. Adding machines, electric controlled typewriters; desk calculators, magnetic to paper tape converters; paper to magnetic tape converters; input/output devices; office machines; high-speed and keyboard printers; magnetic tape, mechanical, paper tape and photo-electric readers, magnetic tape recorders and storage systems; paper tape punches; translating equipment / RMSa Ls(10,000) Le(1903) Ic
- Societe D'Electronique Et D'Automatisme, 138, Boulevard de Verdun Courbevoie, (Seine), France / DEFense 41-20 / *C 59
 Analog computers Type O.M.E. L-2 and O.M.E. P-2 with non linear components and recorders; flight simulators; digital computers Type CAB 500 and 3.000 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 "NUMEROGRAPH;" digital to analog converter "ENAC;" automation devices, coders, storage, etc.; numerical control / RMSa Ls(500) Se(1948) DASICc
- Sola Electric Co., 4633 W. 16th St., Chicago 50, Ill. — no response '59, '60
- Sorenson & Co., Inc., Richards Ave., So. Norwalk, Conn. / TE 8-6571 / *C 59
 Low, medium, and high voltage power supplies, voltage regulators, frequency changers / RMSa Ms(465) Me(1943) Ic
- SOROBAN ENGINEERING, INC., Box 1717, Melbourne, Fla. / PARKway 3-7221 / *C 60
 Data input-output systems; data preparation devices; output tabulating devices; coding keyboards; paper tape readers and perforators; specialized data computing systems and consulting services on all of above; computer components; relays; storage systems; paper tape punches and readers; translating equipment; electric controlled typewriters / RMSCa Ms(150) Se(1954) Ic
 Charles F. West, Pres. / Harlan F. Manweiler, Sec. Treas.
- Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif. / VICToria 9-3193 / *C 60
 Precision capacitors / MSa Ms(74) Se(1951) Ic
- Southwestern Computing Service, Inc., 910 S. Boston, Tulsa, Okla. / GI 7-8146 / *C 60
 Computing service, solving data reduction, engineering and business problems; IBM 604, Alwac III, and associated equipment / RCPa Ss(10) Se(1953) DAc
- Southwestern Industrial Electronics Company, 10201 Westheimer Rd., Houston 27, Texas / HO 5-3471 / *C 60
 Analog computers, special purpose military and industrial digital and analog systems, digital computers, solid state analog/digital and digital/analog converters, magnetic amplifiers, integrators, auto-

- matic control systems, telemetry systems, reading and recording heads. Geophysical instruments, government contracting, heavy manufacturing, consulting services / RMSCa Ls(900) Me(1945) DAICc Specialties, Inc., Skunks Misery Rd., Syosset, N.Y. / WAlnut 1-2345 / *C 60
- Flight computers; mach. computers; altitude, air-speed, air data, engine pressure ratio, pneumatic test equipment; controllers / RMSa Ms(450) Me(1942) ICc
- Spectrol Electronics Corp., 1704 South Del Mar Ave., San Gabriel, Calif. / ATlantic 7-9761 / (eastern plant) 1250 Shames Dr., Westbury, L.I., N.Y. / EDgewood 3-5850 / *C 60
- Precision potentiometers; precision mechanisms; transistorized converters and inverters, power supplies, switches; resistors, variable, linear and non-linear / RMSa Ms(400) Se(1955) Ic
- Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N.Y. / FieLdstone 7-3600 / *C 60
- Research, design, development and manufacture of general and special purpose telemetering, data processing equipment; digital and analog computers for fire control; air, sea and space navigation. Gyroscopes for guidance and control. Specializing in automatic transistorized, miniaturized devices / RMSCa Ls(17,500) Le(1910) AIC
- Sperry Semiconductor Div. of Sperry Rand Corp., Wil-son Ave., S. Norwalk, Conn. / VOlunteer 6-1641 / *C 60
- Silicon diodes, transistors, rectifiers, semiconductor products / RMSa Ms(300) Se(1956) Ic
- Sprague Electric Co., 377 Marshall St., North Adams, Mass. / MOhawk 3-5311 *C 60
- Capacitors: miniature, and low dielectric hysteresis loss, for computer applications. Standard capacitors; precision and power type resistors; pulse transformers; radio interference filters; shift registers; printed circuits; packaged logic circuits / RMSa Ls(6000) Le(1926) Ic
- Stackpole Carbon Co., Stackpole St., St. Mary's, Pa. / TE 41-521 / *C 60
- Electric motor & generator brushes, precious metal contacts, carbon & graphite seals, mech. carbon & graphite, resistors, switches, soft ferrites, permanent ceramic magnets, magnetic powder, anodes / Ma Ls(3000) Le(1906) Ic
- The Standard Electric Time Co., 89 Logan St., Spring-field 2, Mass. / REpublic 6-7237 / *C 59
- Analog computers, electric time systems, timing instruments and devices, signaling and communication systems, laboratory power distribution systems, McIlroy fluid network analyzer / RMSa Ms(450) Le(1884) AIC
- The Standard Register Co., 626 Albany St., Dayton 1, Ohio / BAldwin 3-6181 / *C 60
- Electronic equipment (called "Stanomatic") capable of sensing or reading printed codes on original source documents and translating them into digital pulses which will actuate office machines such as card punches, tape perforators, computers, etc. De-vices for encoding documents at original writing. Data processing and recording equipment, input-output devices, office machines, readers, and information converters / RMSa Ls(3500) Le(1912) Dc
- Stanford Computation Center, Stanford University, Stanford, Calif. / DA 1-2300 / *C 60
- Computing service. Education involving uses of computers. IBM 650, Burroughs 220 / RCP (education)a Ss(5) Se(1953) Dc
- Stanford Research Institute, 333 Ravenswood, Menlo Park, Calif. / DAvenport 6-6200 / *C 60
- Ra Ls(1825) Me(1946) DAC
- Statistical Instrument Company, 25 Sutton Place South, New York 22, N.Y. / PL 2-1089 / *C 60
- Statistical processing equipment; computer test equipment, analog-to-digital and digital-to-analog information converters, random signal and number generators, amplitude distribution analyzers, audio spectrum analyzers / RCa Ss(6) Se(1953) Ic
- Stereatronics, 300 Ellis Rd., Weston 93, Mass. / TWin-brook 4-6071 / *C 60
- Solid-state information-handling devices: transistor, magnetic, ferroelectric applications / RMSa Ss(2) Se(1954) Ic
- Sterling Precision Corp., 5 Sintsink Dr. E., Port Wash-ington, N.Y. / PO 7-8200 / *C 60
- 20,000 stock electro-mechanical components (servo) / MSa Ms(150) Le(1857) Ic
- D. M. Steward Manufacturing Co., P.O. Box 510, Chat-tanooga, Tenn. / TAylor 1-1561 / *C 60
- Ferrites and other technical ceramics, ferrite mag-netic cores, recording heads, pulse transformer cores / RMSa Ms(150) Le(1876) Ic
- Strand Engineering Co., 1354 N. Main St., Ann Arbor, Mich. / NO 2-3127 / *C 60
- Radar & microwave systems & components; auto-matic control, inspection, testing equipment; spe-cial purpose analog & digital computing systems / RMa Ms(60) Se(1955) DAICc
- Strandberg Engineering Lab., Inc., 416 W. Market St., Greensboro, N.C. — no response '59, '60
- Stromberg-Carlson, a Division of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N.Y. — no re-sponse '59, '60
- Stromberg-Carlson — San Diego, 1895 Hancock St., San Diego 12, Calif. / CY 8-8331 / *C 60
- Computer readout devices, high speed electronic printers, microfilm recorders, plug-in and potted circuits, small scale special purpose computers, spe-cialized data-processing editing machine, digital devices for display of computer information, indicat-ors, input and visual output devices (the charac-tron), analog to digital converters / RMa Ls(550) Se(1955) DIC
- Sturup, Inc., 50 Silver St., Middletown, Conn. / DIamond 6-9681 / *C 59
- Ultrasonic delay lines, transducers, etc., for compu-ter and other uses / RMSa Ms(60) Se(1951) Ic
- Sunshine Scientific Instrument Co., 1810 Grant Ave., Philadelphia 15, Pa. / ORchard 3-5600 / *C 60
- Testing and measuring equipment, calibration, certification. Analog field plotter, prototypes, pre-cision electromechanical assemblies, mechanical com-ponents / RMSa Ss(35) Me(1947) AIC
- Superex Electronics Corp., 4 Radford Pl., Yonkers, N.Y. / YOonkers 5-6906 / *C 59
- Cable assemblies, plug in and printed circuits, coils, ferrite cores, jacks, transformers, and other compo-nents / RMSa Ms(50) Se(1950) Ic

SUTHERLAND CO., 1112 First National Bank Co., Peoria, Ill. / 3-5431 / *C 60

Digital computers for business applications / Ca Ss(20) Se(1950) Dc

J. E. Sutherland, Pres.

SWEDISH BOARD FOR COMPUTING MACHINERY, Drottninggatan 95 A, (P.O. Box 6131), Stockholm 6, Sweden / Stockholm 23 55 90 / *C 60

State central institution for research, development, education, consulting, system investigation, problem analysis, documentation. Computing service: appl. math., technology; data processing: commercial, operational, governmental. Equipment: BESK, FACIT, EDB, Alwac III E. / RMCgPa Ms(70): Me(1949) DAic

Gunnar Hävermark, Chief of Exec. Staff / Gunnar Erlandsson, Chief of Engrg.

Sylvania Electric Products, Inc., 100 First Ave., Waltham, Mass. / TWinbrook 3-9200 / *C 59

Research and development activities for general and special purpose computers, data handling devices and computer components / RPa ?s Se(1955) Ic

Sylvania Electric Products, Inc., 1740 Broadway, New York 19, N.Y. — no response '59, '60

Sylvania Electric Products Inc., Semiconductor Division, 100 Sylvan Rd., Woburn, Mass. / WELLS 3-3500 / *C 59

Transistors, germanium diodes, silicon junction diodes, silicon power rectifiers, microwave diodes / RMSa Ls Le Ic

Sylvania Electronic Systems, a Div. of Sylvania Electric Products, Inc., Data Systems Operations, 189 B St., Needham 94, Mass. / HILLcrest 4-3940 / *C 60

Large scale, general and special purpose computers; medium scale general and special purpose computers; data handling devices, data conversion devices, plug-in and printed circuit modules, coils, communications systems, computer components / RMSCPa Ls(1800) Se(1955) Dc

SYSTEM DEVELOPMENT CORP., 2500 Colorado Ave., Santa Monica, Calif. / EXbrook 3-9411 / *C 60
Perform design, analysis, implementation and training of large data processing systems. / Ra Ls (3600) Se(1957) Ic

Systems Laboratories Corp., a div. of Electronic Specialty Co., 5121 San Fernando Rd., Los Angeles 39, Calif. / CH 5-3771 / *C 60

Systems analyses, specifications and simulation of advanced systems, computer service bureau to industry / RC(computer service bureau)a Ls(625) Se(1956) Ic

T

Taller and Cooper — name changed to Taller Cooper Div., American Electronics, Inc., which see

Taller Cooper Division, American Electronics, Inc. (formerly Taller and Cooper), 75 Front St., Brooklyn, N.Y. / *C 60

Toll collection and control equipment, measuring and readout systems

Tally Register Corp., 1310 Mercer St., Seattle 9, Wash. / MAin 4-0760 / *C 60

Paper tape perforators; paper tape readers; paper tape preparation, duplication, and verification equipment; digital data handling and processing systems; high speed digital plotter; logic switch digital elements; special digital systems design. / RMSCa Ms(75) Se(1951) DIc

Tammen & Denison, Inc., Div. of Land Air Inc. — name changed to Land-Air, Inc., subsidiary of Calif. Eastern Aviation, Inc., which see

Taurus Corp., 8 Coryell St., Lambertville, N.J. / EXport 7-1570 / *C 60

Static punched card readers, teflon insulated terminals / MSa Ss(32) Se(1956) Ic

TECHNICAL ADVISORS, INC., Municipal Court Bldg., Ann Arbor, Mich. / NORmandy 2-1159 / *C 59

Digital computing and technical management consulting service bureau. Computing services include consultation, analysis, programming and machine time, principally in the fields of science and engineering / RCPa Ss(9) Se(1954) Ic

Edwin W. Miller, Pres.

Technical Information Company Ltd., Newton House, Mount St., Liverpool 1, England / also Chancery House, Chancery Lane, London, W. C. 2, England / Royal 4595 / *C 60

Publishers of computer abstracts and computer news / Ms(130) Se(1951) Ic

TECHNICAL OPERATIONS, INC., Burlington, Mass. / BR 2-2000 / *C 60

Industrial, commercial and military operations research; automatic programming systems and digital simulations, data processing systems; transistorized power supplies (manufactured by subsidiary) / RSCa Ms(210) Se(1951) Ic

TECHNICAL OPERATIONS INC., 305 Webster St., Monterey, Calif. / FRontier 5-4133 / *C 60

Military, industrial, commercial operations research; systems analysis, design and equipment specification; programming / RCGPa

Techniques Inc., 40 Jay St., Englewood, N.J. / LOWell 9-5333 / *C 60

Printed circuits; blank modular P.C. boards with circuits for digital operations; photo-etched metal parts / RMSa Ss(under 50) Se(1954) Ic

TECHNITROL ENGINEERING CO., 1952 E. Allegheny Ave., Philadelphia 34, Pa. / GARfield 6-9105 / *C 60

Custom designed digital computers and data processing systems. Computer peripheral equipment. Plug-in logical circuits. Pulse transformers. Delay lines. / RMSa Ms(200) Me(1947) Dc

E. Stuart Eichert, Pres. / T. Kite Sharpless, V.P., Sales

Technology Instrument Corp., 531 Main St., Acton, Mass. / COLonial 3-7711 / *C 60

Infinite resolution potentiometers; special research and development facilities; pressure transducers; clutches and brakes / RMSa Ms(?) Me(1946) Ic

Telectro Industries Corp., 35-16 37th St., Long Island City, N.Y. / YELLOWstone 2-8600 / *C 59

Plotting boards, cable assemblies, analog to digital

- converters, card to magnetic tape converters, magnetic tape to card converters, data processing machinery, data recording equipment, facsimile equipment, mechanical generators, magnetic-reading-recording heads, electronic integrators, readers, simulators, magnetic storage systems, telemetering systems / RMSa Ms(200) Se(1948) Ic
- Tele-Dynamics Inc., 5000 Parkside Avenue, Philadelphia 31, Pa. / TRinity 8-3000 / *C 59
Telemetering components and systems; data handling systems / RMSCa Ls(590) Se(1948) Ic
- Telemeter Magnetics Inc., 9937 Jefferson Blvd. Culver City, Calif. / UPton 0-8571, VERmont 7-5321 / *C 60
Core memory products; high-capacity rapid-access ferrite core memories, core matrices, core storage buffers, data translators, data handling systems, magnetic storage systems. Systems design and development / RMSCa Ms(420) Se(1953) DIc
- The Teleregister Corp., 445 Fairfield Ave., Stamford, Conn. / FI 8-4291 / *C 60
Telefile solid state data processors with integrated sub-systems permitting on-line utilization by users at distant locations, and off-line operation for batched processing: savings bank accounting, travel reservations, market quotations, inventory control. Digital display systems. Shared data processing services. Maintaining and servicing equipment / RMS(system design and development)a Ls(1100) Le(1929) DIc
- TELETYPE CORPORATION, 5555 Touhy Ave., Skokie, Ill. / CORnelia 7-6700, ORchard 6-1000 / *C 60**
Communications equipment. Tape readers and tape punches for computer input-output. Page printers / RMSa Ls(5100) Le(1907)
D. F. Corkle, Ass't. Superintendent, Product Sales
- The Teller Company, 101 Hansen Ave., P.O. Box 989, Butler, Pa. / BUtler 75-739 / *C 59
Automatic controls, step motors, digital and analog computers, systems engineering / RMSCa Ms(80) Se(1951) DACc
- Texas Instruments Inc., Semiconductor-Components Div., 6000 Lemmon Ave., P.O. Box 312, Dallas, Tex. / ADams 5-3111 / *C 59
Semiconductor products and components, silicon and germanium transistors, silicon diodes and rectifiers, resistors, tantalum capacitors / RMSa Ls(2400) Se(1954) Ic
- Thermosen, Inc., 375 Fairfield Ave., Stamford, Conn. / DAVis 5-1324 / *C 59
Temperature limited diodes, silicon power rectifiers, electronic tubes, semiconductors / RMSa Ms Se(1951) Ic
- THE THOMPSON-RAMO-WOOLDRIDGE PRODUCTS CO., 202 North Canon Dr., Beverly Hills, Calif. / BRadshaw 2-8892 / *C 60**
RW-300 digital control computer and RW-300 magnetic tape unit / S(systems engrg)a Ms(125) Se(1958) DIc
- Traid Corporation, 17136 Ventura Blvd. (P.O. Box 648), Encino, Calif. / TRIangle 3-3373 / *C 60
Data recording cameras / RMSa Ss(25) Me(1946) Ic
- Trans Electronics, Inc., 7349 Canoga Ave., Canoga Park, Calif. — no response '59, '60
- Transistor Products, Inc., 241 Crescent St., Waltham 54, Mass. — no response '59, '60
- Transitron Electronic Corp., 168 Albion St., Wakefield, Mass. / CRystal 9-4500 / *C 60
Transistors, silicon rectifiers, silicon capacitors, silicon diodes, germanium diodes, micro-diodes / RMSa Ls(4500) Se(1952) Ic
- Trio Laboratories, Inc., Expressway Industrial Park, Plainview, L.I., N.Y. / OVerbrook 1-0400 / *C 60
Analog component for solving three dimensional equations (RODIAC); all transistor voltage comparator; voltage monitor; test instruments / RMSa Ms(64) Se(1954) AIc
- Tucor, Inc., 18 Marshall St., So. Norwalk, Conn. / TEmple 8-7591 / *C 60
Special indicator thyratron tubes for computers and transistor circuits; special purpose tubes for industry and government. / RMSa Ss(32) Se(1959) Ic
- Tung-Sol Electric, Inc., 95 8th Ave., Newark 4, N.J. / HUmboldt 2-4200 / *C 59
Electron tubes, semi-conductors, miniature lamps, diodes, germanium transistors / RMSa Ls(7000) Le(1904) Ic

U

- Underwood Corporation, One Park Ave., New York 16, N.Y. / ORegon 9-3400 / *C 59
Adding and accounting machines; manual and electric typewriters; Data-Flo systems including wide range of automatic electric typewriters and adding machines, paper tape reading and punching, punch card reading and punching, all integrated under plugboard program control; servotypers, master-typers, and servomasters; automatic electric typewriters for input and output in instrumentation, data logging, and computing equipment; Underwood Electronic Business Computer (UEBC) small size, low cost computer with paper tape input and output / RMSa Ls(13,000) Le(1894) DISc
- Union Switch & Signal, Div. of Westinghouse Air Brake Co., Braddock Ave., Pittsburgh 18, Pa. / CHurchill 2-5000 / *C 60
Railroad signaling and control systems; pipeline control and telemetering systems; data display indicators called READALL readout instruments; miniature & sub-miniature relays / RMSa Ls(2150) Le(1881) ICc
- U.S. Air Force, Cambridge Research Center, 230 Albany St., Cambridge 39, Mass. / UNiversity 4-4720
Developed the ABC (Automatic Binary Computer). Has a Computer Research Corp-102 / Ga Ms Me IDc
- U.S. Air Force, Digital Computation Branch (WCL-JEU), Wright Air Development Center, Wright-Patterson Air Force Base, Dayton, Ohio / CL 3-7111 (Dayton) X 28235 / *C 59
Computation services and associated research on three large-scale digital computers, including two Univac Scientifics (1103 and 1103A). Punch card machines. For government use only / RCGPa Ms(50) Se(1950) Dc

- U.S. Air Force, Inst. of Technology, Wright-Patterson Air Force Base, Ohio / *C 59
Philbrick, Reac, and Geda analog computing machines in regular use, also RECOMP II digital computer / RGa Ms(300) Se(1946) DAic
- U.S. Air Force, Rome Air Development Center, Statistical Services Div., Griffiss Air Force Base, Rome, N.Y. — no response '59, '60
- U.S. Air Force, Structures Branch, Computation Div., Directorate of Management Analysis, Headquarters USAF, Pentagon Bldg., Washington 25, D.C. / Liberty 5-6700, X 75136, 77712 / *C 60
Data systems; formulation and analysis; systems analysis reports; non-engineering types of computer applications; programming systems / CGPa Ss(23) Me(1948) Dc
- U.S. Air Force, Systems Dynamic Analysis Division, Wright-Patterson Air Force Base, Ohio / CL-37111, 28235, 33264 / *C 60
Computing service (for air force use) has Univac 1103A; system dynamic simulator (Reeves analog); Bendix DDA; Analog and digital scientific computation / RCGa Ms(59) Se(1950) DAc
- U.S. Army, Ballistic Research Laboratories, Aberdeen Proving Ground, Maryland / ABerdeen 1000 / *C 60
High-speed digital computers and computing service for government and government contractors / RCGPa Ms(120) Me(1940) Dc
- United States Dynamics Corp., 1250 Columbus Ave., Boston 20, Mass. — no response '59, '60
- U.S. Naval Weapons Laboratory, Computation and Analysis Lab., Dahlgren, Va. / NOrth 3-2511 / *C 60
Mathematical analysis and research, programming, engineering, computing, and data processing services for government and government contractors only; operate NORC and IBM 7090 computers, Universal Data Transcriber and a variety of auxiliary equipment / RCPGa Ms(240) Me(1942) Dc
- U.S. Navy, Aviation Supply Office, Data Processing Division, 700 Robbins Ave., Philadelphia 11, Pa. / PI 2-1000 / *C 60
Operates IBM 650 and IBM 705 for inventory control. Government use only. / Ga Ls Me Dc
- U.S. Navy, Naval Research Laboratory, Washington 25, D.C. — no response '59, '60
- U.S. Semiconductor Products, a division of United Industrial Corp., 3540 West Osborn Rd., Phoenix, Arizona / BRowing 2-1341 / *C 60
Silicon zener and rectifier diodes, silicon voltage regulating diodes, silicon crystals, tantalum capacitors (wet and dry electrolyte) / RMSCa Ms(175) Se(1957) Ic
- University of California, Computer Center, Berkeley 4, Calif. / THornwall 5-6000, ext. 2521 / *C 60
Computing service. Has CALDIC, California Digital Computer; also IBM 701, IBM 704 / RPC (education)a Ss(25) Se(1956) DAc
- University of California, Department of Mathematics, Numerical Analysis Research, Los Angeles 24, Calif. / GRanite 3-0971 and BRadshaw 2-6161 / *C 59
Research and teaching in use of digital computers for scientific computation. Operates SWAC. Maintains for the Office of Naval Research a definitive research book collection in numerical analysis and related areas, especially mathematics. Successor to National Bureau of Standards Institute for Numerical Analysis / RCPa Ss(25) Se(1945) Dc
- University of Cambridge, University Mathematical Laboratory, Corn Exchange St., Cambridge, England / 58637 / *C 60
Built Edsac 1 and Edsac 2. Computing service (digital) for University / RCPa Ss(30) Me(1939) Dc
- University of Colorado, Numerical Analysis Center — see Numerical Analysis Center
- University of Durham Computing Laboratory, One Kensington Terrace, Newcastle upon Tyne, 2, England / Newcastle 2-2457 / *C 59
Computing service. Has Ferranti Pegasus computer / RCPa Se(10) Se(1956) Dc
- University of Illinois, Digital Computer Laboratory, Urbana, Ill. / EM 7-6611, ext. 2817 / *C 59
Computing service (internal to University). Education including research and teaching / RCPa Ms(70) Se(1949) Dc
- University of Manchester, Computing Machine Laboratory, Dept. of Electrical Engrg., The University, Manchester 13, England / *C 60
Ferranti Mercury in operation. Atlas being developed in collaboration with Messrs. Ferranti Ltd. / RC(computing service)a Ss(18) Me(1947) Dc
- University of Michigan, Willow Run Laboratories, P.O. Box 2008, Ann Arbor Mich. / NO 3-1511 / *C 60
Has general purpose computers and simulators, including desk calculators, Librascope LGP 30, IBM 709, and a modern large scale analog computer. Research and computing services, including analysis and computation using these types of computers / RCPa Ls(600) Me(1946) DAc
- University of Rochester, Computing Center, Rochester 20, N.Y. / GR 3-3000 / *C 60
Problem solving; research; education; IBM 650 / RCPa Ss(7) Se(1956) Dc
- University of Toronto, Computation Centre, Toronto Ontario, Canada / WALnut 3-1327 / *C 59
Computing services. Programming and consulting services. Time available on Tape IBM 650 / RCPa Ss Me Dc

V

- Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif. / FAculty 1-2280 / *C 60
High density delay lines, variable transistorized power supplies, transistorized pulse generators, transistor checker delay lines, sub-miniature pulse transformers, transistorized voltage regulators / RMSa Ms(60) Se(1954) Ic
- Vari-Typer Corp., subsidiary of Addressograph-Multi-graph Corp., 720 Frelinghuysen Ave., Newark 12, N.J. / BIGelow 2-2600 / *C 60
Vari-typer that composes type for reproduction by any duplicating method / RMSa Ls(900) Me(1933) Ic
- Vaucanson, 11 Rue du Surmelin, Paris 20e, France — no response '59, '60
- Vectron, Inc., 1635 Trapelo Rd., Waltham 54, Mass. — no response '59, '60
- Veeder-Root Inc., 70 Sargeant St., Hartford 2, Conn. / JAcKson 7-7201 / *C 59

Analog-to-digital converters; electronic counters; mechanical and electro-mechanical counting devices for all counting requirements / RMSCa Ls(1200) Me(1928) Ic
 Vernistat Div. of the Perkin-Elmer Corp., 771 Main Ave., Norwalk, Conn. / VICTOR 7-0411 / *C 60
 Precision AC potentiometers; variable ratio transformers and adjustable function generators / RMSa Ms(50) Se(1954) Ic
 Vickers Inc., Electric Products Div. (A Div. of Sperry-Rand Corp.), 1815 Locust St., St. Louis 3, Mo. / *C 60
 Magnetic amplifiers; semi-conductors; magnetic-particle clutches; power control systems / MA (?)s Me(1948) Ic
 Victor Adding Machine Co., 3900 Rockwell St., Chicago 18, Ill. — no response '59, '60
 Visirecord, Inc., 54 Railroad Ave., Copiague, L.I., N.Y. — no response '59, '60
 Vitramon, Inc., P.O. Box 544, Bridgeport 1, Conn. / AMherst 8-1656 / *C 60
 Ceramic and porcelain capacitors, micro-miniature / RMa Ms(500) Me(1948) Ic

W

THE WALKIRT CO., 141 West Hazel St., Inglewood 3, Calif. / OR 8-4814 / *C 60
 Plug-in pulse circuit packages; complete counters, multivibrators, amplifiers, gates, triggers, pulse generators, etc. / RMSa Ss(30) Me(1948) Ic
 Wes Kirchoff, Pres. / Jim A. Robinson, Chief Engr.
 Wang Laboratories, 12 Huron Drive, Natick, Mass. / OLYmpic 3-3910 / *C 60
 Magnetic delay-line memory units. Digital signal generators. Multiple scalars. Static magnetic memory systems and other devices. Shaft digitizing coders / RCMSa Ss(15) Se(1950) DIC
 Ward Leonard Electric Co., 90 South St., Mt. Vernon, N.Y. / *C 59
 Electric control devices: resistors, relays, rheostats, contactors, etc. / RMSa Ls(1000) Le(1892) Ic
 The George Washington University, Logistics Research Project, 707 22nd St., N.W., Washington 7, D.C. / STerling 3-4539 / *C 60
 Research in logistics data processing under contract with the Office of Naval Research; ONR logistics computer / RCPa Ss(45) Me(1949) Dc
 Watson Scientific Computing Laboratory, 612 West 116 St., New York, N.Y. — no response '59, '60
 Wayne-George Corporation, 588 Commonwealth Ave., Boston 15, Mass. / COpley 7-8425 / *C 60
 Analog-to-digital converters and associated data handling equipment; special purpose digital computers / RMSCa Ms(60) Se(1956) DAC
 Wayne State University Computing Center, 4841 Cass Ave., Detroit 2, Mich. / TE 1-0703 / *C 60
 IBM 650 system with alphabetic device, special character device, immediate access storage, index accumulators, floating point arithmetic, RAMAC, two tape units, 543 reader and 544 punch unit. / RCa Ss(40) Se(1950) Ic
 Jervis B. Webb Co., 8951 Alpine Ave., Detroit 4, Mich. — no response '59, '60

Western Data Processing Center, Graduate School of Business Administration, U.C.L.A., 405 Hilgard Ave., Los Angeles 24, Calif. / GRanite 3-0971, Ext. 9379, or BRAdshaw 2-6161, Ext. 9596 / *C 59
 Support education and research in the field of business data processing. Provide computing facilities (IBM 709 installation with auxiliary equipment) without charge for research and education in all academic disciplines / Ra Ss(20) Se(1957) Ic
 Western Electronic Supply Co., 717 Dexter Ave., Seattle, Wash. / — / *C 59
 Boeing Electronic Analog Computer and associate equipment / RMSa ?s ?e AIC
 Westgate Laboratory, Inc., 506 S. High St., Yellow Springs, Ohio / ROckwell 7-7375; Dayton, Ohio — BALdwin 2-0291 / *C 60
 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 & 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 / RMCa Ss(30) Se(1956) DCIC
 Westinghouse Electric Corp., Advanced System Engineering and Analytical Dept., East Pittsburgh, Pa. / EXpress 1-2800 / *C 60
 Computing service (digital and analog) using: DC and AC calculating boards (network analyzers); ANACOM computer (passive element transient analyzer); PACE electronic differential analyzer; IBM Type 704. (IBM 7090 digital computer, Oct. 1960) Dynamic analyses of physical systems, including transient phenomena in mechanical and electrical systems; servomechanisms, and regulating systems; nuclear reactor calculations; operations research; electric utility & industrial service bureau programs / RMSCP a Ms(Dept. 62) Se(Dept., 1952) DASc
 Westinghouse Electric Corp., Air Arm Div., Box 746, Baltimore 3, Md. / SO 1-1000 / *C 60
 Airborne system coordinators, data processors, molecular electronic systems, radar detection and tracking systems, space systems, radar countermeasures, reconnaissance radar, weapon system studies. / RMSa Ls(4007) Se(1951) DAIC
 Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa. / WA 5-7272(Youngwood), CH 2-7400(Pittsburgh) / *C 60
 Semiconductor products, silicon rectifiers, silicon power transistors, germanium transistors, germanium diodes, thermoelectric coolers, infrared detectors / RMSa Ls(1000) Se(1956) Ic
 Weston Instruments, Div. of Daystrom, Inc. — name changed to Daystrom, Inc., Weston Instr. Div., which see
 Westrex Corp., 111 Eighth Ave., New York 11, N.Y. / CH 3-2300 / *C 59
 Magnetic recording equipment and associated items. Magnetic heads / RMSCa Ls(1400) Me(1926) Ic
 Westronics, Inc., 3605 McCart, Fort Worth, Texas / WA 3-8211 / *C 60

[Please turn to page 66]

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

(Cumulative, information as of May 1, 1960)

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 that we have been able to learn something about. This in the fourth cumulative edition of this roster, containing over 2000 entries.

Kinds of Entries. There are three kinds of entries in this list: expanded bold face entries; cross reference entries and ordinary entries. An expanded bold face 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 20 to 50 words, or more / USE: how it is used / price range, and whether for sale or rent.

Every entry is subject to editing. These entries are set in bold face type, and a nominal charge of \$10 is requested for printing them, except that a display advertiser receives a number of such entries free depending on the amount of display advertising.

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

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

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. Nearly all the entries in this roster have been derived from answers to questionnaires which we sent out in February and March to over 700 suppliers in the computer field. The expanded entries have been derived mainly from answers given on the "Product Entry Form," which follows:

Product Entry Form
for
THE COMPUTER DIRECTORY and
BUYERS' GUIDE, 1960
THIS IS THE INFORMATION WE WANT
FROM YOU:

1. Name or identification of product (or service)?
2. Brief description (20 to 50 words):
3. How is it used?
4. What is the price range?
5. Under what headings should it be listed?

HERE IS THE INFORMATION WE PUBLISHED
LAST YEAR (or have in our file):

Entry:

..... (Note: The number at the
..... end of the entry is the
..... 1959 heading number —
..... see the list on the reverse
..... side.)

Additions,
changes,
remarks?
Organization

Address

Filled in by..... Title.....

Date

When filled in, please send this form to **Computers and Automation** (address above), with \$10.00 requested charge for an expanded bold-face entry, on or before APRIL 15, 1960.

() \$10.00 enclosed

LIST OF HEADINGS

As a guide to the products and services offered in the computer field, please refer to the following list of some 185 headings under which products and services are classified. There is overlapping among these headings; it may be necessary or desirable to look under more than one heading.

A: Adding Machines	— A1
Addressing Machines	— A2
Amplifiers	— A3
— Magnetic	— A4
Analog Computers (SEE Computers, Analog)	
Automatic Assembly Equipment	— A5
Automatic Control Equipment	— A6
B: Boards — Plotting	— B1
— Plug	— B2
— Strip Type	— B3
Breadboard Kits	— B6
C: Cable	— C1
Cable Assemblies	— C2
Cameras	— C3
— Data Recording	— C3A
Capacitors (Computer Types)	— C4
Cards (SEE ALSO Punch Cards)	— C5
— Punch	— C6
— Magnetic	— C7
Chassis — Metal	— C8
Circuits	
— Arithmetical (for Digital Computers)	— C9
— Computer, Packaged	— C10
— Logical (for Digital Computers)	— C11
— Plug-in	— C12
— Potted	— C13
— Printed	— C14
Clutches	— C15
— Magnetic	— C16
Coatings	— C17
— Conductive	— C18
— Protective	— C19
— Salt Spray Resistant	— C20
Coils (Computer Types)	— C21
Communications Systems (Computer Types)	— C22
Computers (SEE ALSO specific types)	— C22A
Computers, Analog	— C23
Computers, Digital	— C24
Computers, Special Purpose	— C24A
Computers, Test Equipment	— C25
Computer Components (SEE ALSO specific types)	— C26
Computing Services	— C27
Digital	— C28
Connectors	— C29
Consulting Services	— C30
Controls	— C31
— Automatic	— C32
— Signaling	— C33
— Sorting and Counting	— C34
Converters, Electrical	— C35
— High Frequency	— C36
— Low Frequency	— C37
— Power Frequency	— C38
Converters, Information....	— C39
— Analog to Digital	— C40

— Card to Magnetic Tape	— C41
— Card to Paper Tape	— C42
— Computing	— C43
— Digital to Analog	— C44
— Magnetic Tape to Card	— C45
— Magnetic Tape to Paper Tape	— C46
— Paper Tape to Card	— C47
— Paper Tape to Magnetic Tape	— C48
Cords	— C49
Cores	— C50
— Ferrite	— C51
— Magnetic	— C52
Counters	— C53
— Electronic	— C54
— Frequency	— C55
— Mechanical	— C56
— Proportional	— C57
Courses by Mail (Computer Field)	— C58
D: Data Processing Machinery (SEE ALSO specific types)	— D1
Data Recording Equipment (SEE ALSO Input/Output devices)	— D2
Data Reduction Equipment	— D2A
Delay Lines (Computer Types)	— D3
Desk Calculators	— D4
Dials	— D5
Differential Analyzers	— D6
Digital Computers (SEE Computers, Digital)	
Diodes (Computer Types)	— D7
— Germanium	— D8
— Power	— D9
— Silicon	— D10
Discs, Magnetic	— D11
Drums, Magnetic	— D12
E: Economic Research	— E0
Education (see also courses)	— E1
Embedded Assemblies and Components	— E2
F: Facsimile Equipment	— F1
Fans and Blowers	— F1A
Fasteners and Fastening Devices	— F2
Fire Control Equipment	— F3
G: Generators, Function	— G1
— Electronic	— G2
— Mechanical	— G3
Geophysical Apparatus	— G4
H: Heads, Magnetic	— H1
— Reading	— H2
— Recording	— H3
I: Indicators (Computer Types)	— I1
Information Retrieval Devices	— I2
Input/Output Devices	— I3
Integrators	— I4
— Electronic	— I5
— Mechanical	— I6
Inventory Systems	— I7
Investment Assistance	— I8
J: Jacks	— J1
K: Keyboards	— K1
L: Lights, Indicator	— L1
M: Magnets	— M1
Memory Systems	— M2
Multipliers	— M3
— Diode	— M4

— Electronic	— M5
— Frequency	— M6
— Servo	— M7
O: Office Machines	— O1
Operations Research	— O2
P: Panels	— P1
— Jack	— P2
— Relay Rack	— P3
Paper Tape	— P4
Patch Cords	— P5
Plotters (SEE ALSO Boards — Plotting)	— P6
Plugboards	— P6A
Potentiometers (Computer Types)	— P7
Power Supplies—Regulated	— P8
Printers	— P9
— High Speed	— P10
— Keyboard	— P11
— Line-a-time	— P12
Programming Services	— P12A
Publications	— P13
— Magazines	— P15
Punch Card Machines	— P16
R: Readers	— R1
— Character	— R2
— Magnetic Card	— R3
— Magnetic Tape	— R4
— Mechanical	— R5
— Paper Tape	— R6
— Photoelectric	— R7
— Punch Card	— R8
Recording Papers	— R9
Rectifiers	— R10
Registers, Shift	— R11
Relays (Computer Types)	— R12
Resistors	— R13
Resolvers	— R14
— Coordinate Transform	— R15
— Product	— R16
— Sine-Cosine	— R17
Robots	— R18
S: Scanners	— S1
Semiconductors	— S2
Simulators	— S3
Storage Systems	— S4
— Magnetic	— S5
Switches	— S6
— Stepping	— S7
Synchros	— S8
Systems Engineering	— S9
T: Tachometers	— T1
Tape Handlers	— T2
Tape, Magnetic	— T3
— Filing Systems	— T3A
— Readers	— T4
— Recorders	— T5
— Reels	— T5A
Tape, Paper	— T6
— Filing Systems	— T7
— Punches	— T8
— Readers	— T9
Telemetry Systems	— T10
Terminals	— T11
Transducers	— T11A
Transformers	— T12
— Pulse	— T13
Transistors	— T14
— Germanium	— T15
— Silicon	— T16
Translating Equipment	— T17
Typewriters, Electric, Controlled	— T18
Tubes, Electronic	— T19
V: Visual Output Devices	— V1

ROSTER

A1. ADDING MACHINES

ADDO-X INC., 300 Park Ave., New York 22, N.Y. / Addo-x / DESCR: 10-key electric precision adding, posting and calculating machines with: a) solenoid input for remote control readout of digital instruments; b) electrical read-out for input to automatic tabulating equipment or computers; c) tape punch and readers for 5, 6, 7 and 8 channel codes / — / \$600 to 6000 / A1

Comptometer Corp.

Friden, Inc. — See D1, D4 and T18

Marchant Division of Smith-Corona Marchant Inc.

Remington Rand Div. of Sperry Rand Corp.

Smith-Corona Marchant Inc.

A2. ADDRESSING MACHINES

Addressograph-Multigraph Corp.

Elliott Addressing Machine Co.

A3. AMPLIFIERS

Airpax Electronics Incorporated

American Research and Mfg. Corp.

Beckman Systems Div.

Bowmar Instrument Corp.

Burlingame Associates, Ltd.

Centralab

Century Electronics & Instruments, Inc.

The Daven Company

Daystrom, Inc., Weston Instruments Div.

Electro Instruments, Inc.

General Computers, Inc.

Gulton Industries, Inc.

Hewlett-Packard Co.

Ketay Dept., Norden, div. of United Aircraft

Leeds & Northrup Co.

The W. L. Maxson Corporation

Minneapolis-Honeywell Regulator Co., Boston Div.

Minneapolis-Honeywell Regulator Co., Industrial Div.

George A. Philbrick Researches, Inc.

Reeves Instrument Corp.

Sanborn Co.

Strand Engineering Co.

Vickers Inc., Electric Products Div. (a Div. of Sperry-Rand Corp.)

A4. MAGNETIC AMPLIFIERS

Airpax Electronics Incorporated

American Electronics, Inc.

American Research and Mfg. Corp.

Bendix Corp., Eclipse-Pioneer Div.

Celco

Consolidated Electrodynamics Corp.

Data Systems Div., American Electronics, Inc.

Gulton Industries, Inc.

Hoover Electronics Co.

The W. L. Maxson Corporation

Southwestern Industrial Electronics Co.

Vickers Inc., Electric Products Div. (a Div. of Sperry-Rand Corp.)

A5. AUTOMATIC ASSEMBLY EQUIPMENT

Automation Management Inc.

Consolidated Controls Corp.

Strand Engineering Co.

A6. AUTOMATIC CONTROL EQUIPMENT

Addo-x, Inc. — see A1.

Airpax Electronics Incorporated

Auerbach Electronics Corp.

Automation Management, Inc.

Bailey Meter Co.

The Bendix Corp. — Research Laboratory Division

Consolidated Controls Corp.

Consolidated Electrodynamics Corp.

Convair/Pomona, A Division of General Dynamics Corp.

Daystrom, Inc., Weston Instruments Div.

Delco Radio Div., General Motors Corp. — see C24

Electro Instruments, Inc.

FAE Instrument Corp.

Ferranti Electric, Inc.

Flight Research, Inc.

General Automatics, Inc.

General Electric Co., Computer Dept.

Gulton Industries, Inc.

The A. W. Haydon Co.

ITT Federal Div., International Telephone and Telegraph Corp.

Leeds & Northrup Co.

The W. L. Maxson Corporation

Microtech Research Company

Norden Div. of United Aircraft Corp.,

Data Systems Dept.

Panellit—A Division of Information Systems, Inc.

Strand Engineering Co.

Tally Register Corp.

Wiancko Engineering Co.

B1. BOARDS, PLOTTING

Accurate Electronics Corp.

Cambridge Thermionic Corp.

Electro Instruments, Inc.

The W. L. Maxson Corporation

Stromberg-Carlson — San Diego

Tally Register Corp.

Westgate Laboratory, Inc.

B2. BOARDS, PLUG

Accurate Electronics Corp.

B3. BOARDS, STRIP TYPE

Accurate Electronics Corp.

B4. BOBBINS, COIL WINDING

B6. BREADBOARD KITS

Alden Products Co.

C1. CABLE

Amphenol Cable & Wire Div., Amphenol-Borg Electronics Corp.

William Brand—Rex Div., American

Enka Corp.

Gulton Industries, Inc.

Royal Electric Corp.

C2. CABLE ASSEMBLIES

Alden Products Co.

William Brand—Rex Div., American

Enka Corp.

California Technical Industries

Dale Products, Inc.

Gulton Industries, Inc.

Technitrol Engineering Co. — see P10

C3. CAMERAS

Eastman Kodak Co.

Hewlett-Packard Co.

C3A. CAMERAS, DATA RECORDING

Benson-Lehner Corp.

Century Electronics & Instruments, Inc.

Chadwick-Helmuth Co.

The Geotechnical Corp.

The Magnavox Company

Strand Engineering Co.

Traid Corporation

Westgate Laboratory, Inc.

C4. CAPACITORS (Computer Types)

AMP, Inc.

Cambridge Thermionic Corp.

Centralab

Corning Glass Works, Electronic Components Dept.

EFCON, Incorporated

Fansteel Metallurgical Corp.

General Electric Co., Capacitor Dept., Electronic Capacitor Sect.

Gulton Industries, Inc.

P. R. Mallory & Co., Inc.

Plastic Capacitors, Inc.

Radio Corp. of America, Semiconductor & Materials Div.

Sangamo Electric Co.

Southern Electronics Corp.

Sprague Electric Co.

U. S. Semiconductor Products, a Div. of United Industrial Corp.

Vitramon, Inc.

C5. CARDS (SEE ALSO PUNCH CARDS)

C6. CARDS, PUNCH

BENDIX CORP., BENDIX COMPUTER DIVISION, 5630 Arbor Vitae St., Los Angeles 45, Calif. / CA-1 punched card adapter / DESCR: adapts IBM 026 reader-punch for use with Bendix G-15 general-purpose digital computer (see C24) / USE: punched card input-output / \$2530 sale, \$100 per month lease / C6

BENDIX CORP., BENDIX COMPUTER Division, *a / CA-2 punched card adapter / DESCR: enables G-15 computer to operate with up to three IBM card readers, punches and tabulators at 100 cards or lines/minute. Handles full 80 columns of mixed alphanumeric and special character data / USE: punched card input-output for scientific and data processing use / \$19,500 sale, \$585 per month lease / C6

Remington Rand Univac Div. of Sperry Rand Corp.

C7. CARDS, MAGNETIC

The Magnavox Company

C8. CHASSIS, METAL

Alden Products Co.

C9. CIRCUITS, ARITHMETICAL (FOR DIGITAL COMPUTERS)

Auerbach Electronics Corp.

Delco Radio Div., General Motors Corp. — see C24

Sylvania Electronic Systems, A Div. of Sylvania Electric Products, Inc., Data Systems Operations

Tally Register Corp.

Techniques, Inc.

The Walkirt Co. — see C10

C10. CIRCUITS, COMPUTER, PACKAGED

Auerbach Electronics Corp.
Centralab
Delco Radio Div., General Motors Corp.
— see C24
Di/An Controls, Inc.
ESC Corporation — see D3
Gulton Industries, Inc.
Heath Co., a subsidiary of Daystrom, Inc.
Hoover Electronics Co.
Navigation Computer Corp.
PACKARD BELL COMPUTER CORP.,
1905 Armacost Ave., Los Angeles 25,
Calif. / Transistorized and magnetic
digital modules / DESCR: Two com-
patible series: 1) 200 KC transistorized
digital modules 2) 3 megacycle
transistorized digital modules / USE:
Computer and data-processing equip-
ment component / \$30 to \$200 / C10
George A. Philbrick Researches, Inc.
Radio Corp. of America, Semiconductor
& Materials Div.
Sprague Electric Co.
Strand Engineering Co.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
THE WALKIRT CO., 141 W. Hazel St.,
Inglewood 3, Calif. / Plug-in pulse cir-
cuit packages / DESCR: generally
single-tube and/or transistor circuit
stages, encapsulated in resin, plug-in
form; complete counters, multivibrators,
amplifiers, gates, triggers, pulse
generators, etc. / USE: as a complete
circuit stage in digital computing
equipment / \$8 to \$20 per stage / C10

C11. CIRCUITS, LOGICAL (FOR DIGITAL COMPUTERS)

Auerbach Electronics Corp.
Delco Radio Div., General Motors Corp.
— see C24
Di/An Controls, Inc.
ESC Corporation — see D3
General Mills, Inc.
Gulton Industries, Inc.
Hoover Electronics Co.
Navigation Computer Corp.
PACKARD BELL COMPUTER CORP.,
1905 Armacost Ave., Los Angeles 25,
Calif. / Transistorized and magnetic
digital modules / DESCR: Two com-
patible series: 1) 200 KC transistorized
digital modules 2) 3 mega-
cycle transistorized digital modules /
USE: computer and data-processing
equipment component / \$30 to \$200 /
C11
Rese Engineering Inc.
Sprague Electric Co.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Tally Register Corp.
Techniques, Inc.
Technitrol Engineering Co. — see P10
The Walkirt Co. — see C10

C12. CIRCUITS, PLUG-IN

Airflyte Electronics Co.
Centralab
C G Electronics Corp.
The Daven Company
Delco Radio Div., General Motors Corp.
— see C24

Electralab Printed Electronics Corp. —
see C14

Engineered Electronics Co.
ESC Corporation — see D3
Gulton Industries, Inc.
Hermes Electronics Co.
P. R. Mallory & Co., Inc.
Navigation Computer Corp.
PACKARD BELL COMPUTER CORP.,
1905 Armacost Ave., Los Angeles 25,
Calif. / Transistorized and magnetic
digital modules / DESCR: Two com-
patible series: 1) 200 KC transistorized
digital modules 2) 3 Megacycle
transistorized digital modules /
USE: computer and data-processing
equipment component / \$30 to \$200 /
C12
Raytheon Company, Industrial Compon-
ents Div.
Rese Engineering Inc.
Sprague Electric Co.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Tally Register Corp.
Technitrol Engineering Co. — see P10
Transitron Electronic Corp.
The Walkirt Co. — see C10

C13. CIRCUITS, POTTED

Airflyte Electronics Co.
Centralab
C G Electronics Corp.
The Daven Company
Delco Radio Div., General Motors Corp.
— see C24
Di/An Controls, Inc.
ESC Corporation — see D3
P. R. Mallory & Co., Inc.
Raytheon Company, Industrial Compon-
ents Div.
Raytheon Company, Semiconductor Div.
Rese Engineering Inc.
Sprague Electric Co.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Transitron Electronic Corp.
The Walkirt Co. — see C10

C14. CIRCUITS, PRINTED

Centralab
C G Electronics Corp.
Consolidated Electrodynamics Corp.
Corning Glass Works, Electronic Com-
ponents Dept.
Dale Products, Inc.
Delco Radio Div., General Motors Corp.
— see C24
**ELECTRALAB PRINTED ELECTRON-
ICS CORP.**, 175 "A" St., Needham
Heights 94, Mass. / Printed wiring
boards and printed circuit assemblies
/ DESCR: Manufactures printed wir-
ing boards and printed circuit assem-
blies to customer specifications with
applications in high reliability equip-
ment used in missiles, computers, in-
struments, etc. Also manufactures
PROTOMAKA — a complete process-
ing unit for making printed wiring
boards for prototype use / C14
ESC Corporation — see D3
Gulton Industries, Inc.
Monroe Industries, Inc.
Navigation Computer Corp.
Sprague Electric Co.

Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Techniques, Inc.
Technitrol Engineering Co. — see P10

C15. CLUTCHES

American Electronics, Inc.
Digitronics Corp.
Flight Research, Inc.
Technology Instrument Corp.
Vickers Inc., Electric Products Div. (a
Div. of Sperry-Rand Corp.)

C16. CLUTCHES, MAGNETIC

FAE Instrument Corp.
Reeves Instrument Corp.
Sterling Precision Corp.
Technology Instrument Corp.
Vickers Inc., Electric Products Div. (a
Div. of Sperry-Rand Corp.)

C17. COATINGS

Acheson Colloids Co.

C18. COATINGS, CONDUCTIVE

Acheson Colloids Co.
Daystrom, Inc., Weston Instruments Div.

C19. COATINGS, PROTECTIVE

Acheson Colloids Co.
Columbia Technical Corp.
Gulton Industries, Inc.
Monroe Industries, Inc.

C20. COATINGS, SALT SPRAY RESISTANT

Columbia Technical Corp.

C21. COILS (COMPUTER TYPES)

Comar Electric Co.
EFCON, Incorporated
Electronic Transformer Co., Inc.
Gulton Industries, Inc.
Sprague Electric Co.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Technitrol Engineering Co. — see P10

C22. COMMUNICATIONS SYSTEMS (COMPUTER TYPES)

Airpax Electronics Incorporated
Auerbach Electronics Corp.
Automation Management, Inc.
Bendix Corp., Bendix-Pacific Div.
J. H. Bunnell & Co.
Collins Radio Co.
Colorado Research Corp.
Cook Electric Co.
Ferranti-Packard Electric Ltd., Electron-
ics Div.
Gulton Industries, Inc.
The Magnavox Company
Smith-Corona Marchant, Inc.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
The Teleregister Corporation

C22A. COMPUTERS

Addressograph-Multigraph Corp.
American Electronics, Inc.
Auerbach Electronics Corp.
Automation Management, Inc.
Bailey Meter Co.
Bowmar Instrument Corp.

Convair-Astronautics, A Division of General Dynamics Corp.
 Delco Radio Div., General Motors Corp. — see C24
 Di/An Controls, Inc.
 Electronic Contractors, Inc.
 Ferranti-Packard Electric Ltd., Electronics Div.
 Information Systems, Inc.
 Leeds & Northrup Co.
 Logabax, S. A.
 The Magnavox Company
 The W. L. Maxson Corporation
 The National Cash Register Co.
 Navigation Computer Corp.
 John Oster Mfg. Co., Avionic Div.
 Remington Rand Univac Div. of Sperry Rand Corp.
 Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

C23. COMPUTERS, ANALOG

Analogue Controls, Inc.
 Arma Div., American Bosch Arma Corp.
 Automation Management, Inc.
 Bailey Meter Co.
 Beckman Instruments, Inc., Berkeley Div.
 The Bendix Corp. — Research Laboratory Division
 Birkbeck College, Dept. of Numerical Automation, University of London
 Bowmar Instrument Corp.
 Burlingame Associates, Ltd.
 Canadian Westinghouse Co., Ltd.
 C G Electronics Corp.
 Computer Engineering Associates, Inc.
 Convair Electronics (San Diego), A Division of General Dynamics Corp.
 Delco Radio Div., General Motors Corp. — see C24
 Dian Laboratories, Inc.
 Electronic Associates, Inc.
 Electro-Scientific Industries, Inc.
 General Automatics, Inc.
 General Computers, Inc.
 General Electric Co., Light Military Electronics Dept.
 Goodyear Aircraft Corp.
 Gulton Industries, Inc.
 Heath Co., a subsidiary of Daystrom Inc.
 Instrument Development Laboratories, Inc.
 Leeds & Northrup Co.
 Librascope Division, General Precision, Inc.
 The Magnavox Company
 The W. L. Maxson Corporation
 National Bureau of Standards, Data Processing Systems Div.
 Navigation Computer Corp.
 New London Instrument Co., Inc.
 Norden Division of United Aircraft Corp.
 George A. Philbrick Researches, Inc.
 Reeves Instrument Corp.
 Southwestern Industrial Electronics Co.
 Sperry Gyroscope Co., Div. of Sperry Rand Corp.
 Strand Engineering Co.
 Univ. of Michigan, Willow Run Labs.
 Westinghouse Electric Corp., Air Arm Div.

C24. COMPUTERS, DIGITAL

Addressograph-Multigraph Corp.
 Alwac Computer Division

Arma Div. American Bosch Arma Corp.
 Automation Management, Inc.

AUTONETICS, a Div. of North American Aviation, Inc., 9150 E. Imperial Hwy., Downey, Calif. / RECOMP II, portable, general purpose, transistorized digital computer / DESCR: serial, single address, internally stored program computer with 4096 word (40 bit) magnetic disk memory. Has built-in floating point, and 50 instruction command list. Alpha-numeric input-output through paper tape and typewriter / USE: general computational work for industrial, engineering, scientific and business type applications / \$95,000; Lease: \$3,000 per month / C24

BENDIX CORP., BENDIX COMPUTER DIVISION, 5630 Arbor Vitae St., Los Angeles 45, Calif. / G-15 general purpose digital computer / DESCR: low-cost, internally programmed. Complete line of input-output equipment as well as digital differential analyzer accessory. Variety of programming systems for users with any amount of experience / USE: scientific, engineering and business computing and data processing / Domestic sale price 49,500, lease \$1485/mo. / C24

BENDIX CORP., BENDIX COMPUTER DIVISION, *a / Bendix G-20 high speed data processing system / DESCR: A solid-state, large scale data processing system utilizing modular, or building block type construction. The G-20 ranges in capability from medium to a large-scale system, depending on the number and types of accessories required. The Central Processors 4096 word core memory, may be expanded to a maximum of 32,768 words by the addition of accessory memory modules. Addition rates of 45,000 or more floating point operations per second can be performed. The system is easily expandable to permit remote sub-systems. Multiple data processing operations may be performed by the addition of control buffers. The G-20 tape unit reading and recording speed is 120,000 decimal digits or 60,000 eight bit characters per second / USE: Commercial, scientific and industrial applications / Monthly rental and selling price depends upon system requirements / C24

The Bendix Corp. — Research Laboratory Division

Birkbeck College, Dept. of Numerical Automation, University of London

BURROUGHS CORPORATION, Detroit, Mich. / Burroughs 205 automatic digital computer and auxiliary electronic data processing machines / DESCR: 4,000 words magnetic drum storage, 80 additional words quick-access drum storage; 10 decimal digits and sign; paper tape, CARDATRON complete alpha-numeric punch card operation, Single or DATAFILE multiple magnetic tape units; range 400,000 to 2,000,000 words auxiliary storage per unit / USE: business applications, mathematical, scientific, engineering computation / \$140,000 to \$250,000

approx. or lease with option to buy / C24

BURROUGHS CORPORATION, *a / Burroughs 220 automatic digital computer and auxiliary electronic data processing machines / DESCR: Expandable magnetic core storage of 2,000 to 10,000 computer words (10 decimal digits and sign); Paper Tape subsystem; CARDATRON full alphabetic, alphanumeric and special-character punched card subsystem; single and multiple DATAFILE magnetic tape subsystem (50,000,000 words auxiliary storage); high-speed printer, on line or off line operation, up to 1500 lines per minute; 93-command programming structure / USE: commercial applications, mathematical, scientific, engineering computation / \$375,000 to \$600,000 approx. or lease with option to buy / C24

BURROUGHS CORPORATION, *a / Burroughs E101 desk-size electronic digital computer / DESCR: 220-word magnetic drum memory; 11-column full keyboard; optional punched card and paper tape input unit; output on roll-documents, ledger forms, paper tape / USE: commercial applications, scientific, engineering computation / \$38,500 approx. or lease with option to buy / C24

C G Electronics Corp.

CLARY CORPORATION, 408 Junipero St., San Gabriel, Calif. / DE-60 Computer / DESCR: Direct entry, general purpose digital computer. Will also accept programmed routines / USE: engineering, scientific and industrial or business problems / \$18,000 to \$22,000 / C24

Computing Devices of Canada Ltd.

Convair-Astronautics, A Division of General Dynamics Corp.

Convair Electronics (San Diego), A Division of General Dynamics Corp.

Cook Electric Co.

Cubic Corp.

Daystrom, Inc., Control Systems Div. — see S9

Daystrom, Inc., Weston Instruments Div.

DELCO RADIO DIVISION, GENERAL MOTORS CORP., 700 East Firmin St., Kokomo, Indiana / Digital Computers / DESCR: Serial, single address, stored program computers for airborne, shipborne, or ground control applications, magnetic core or drum memory to 4000 words (24 binary digits). Logic and memory exercisers for system testing, magnetic core and transistor buffer memories, data format converters, and precision solid state power supplies for digital computer systems / C24

Di/An Controls, Inc.

N.V. ELECTROLOGICA, 9 Paleisstraat, The Hague, Netherlands / Digital Computer XI / DESCR: XI-Computer, general purpose, transistorized, magnetic core memory up to more than 30,000 words of 27 bits, incl. sign; time sharing features; in-and output: punched tape and cards, magnetic tape, printer, typewriter, high speed printer / \$85,000 to \$400,000 / C24

General Automatics, Inc.
General Electric Co., Computer Dept.
General Electric Co., Light Military Electronics Dept.
General Mills, Inc.
General Mills, Mechanical Div.
FAE Instrument Corp.
Hermes Electronics Co.
Information Systems, Inc.

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., 112 East Post Rd., White Plains, N.Y. / IBM 650 Data Processing System / DESCR: A medium-sized data processing system. The units of the basic 650 are: a console unit which contains the magnetic drum "memory," a calculating unit and control console, a card-read punch with which information is entered or extracted in punched card form, and a power unit. Up to 40,000 alphanumeric characters of storage for data and operating instructions are available with the basic 650. Additional units can be incorporated into a 650 system to provide magnetic tape input and output, printer output, paper tape input, magnetic core storage, and disc storage with random access and direct interrogation (IBM RAMAC 650). Disc files can be installed either singly or in any combination of up to four units, providing storage capacities of from 6 to 48 million digits / USE: the 650 is a general purpose system which is used for commercial and scientific computing problems / Monthly rental, \$3,750 and up. Selling price, \$182,400 and up. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 704 Data Processing System / DESCR: large-scale data processing system made up of interconnected units. The heart of the 704 system is its high-speed magnetic core storage. Any word in core storage can be located and put into use in only 12 millionths of a second. Core storage is supplemented by magnetic drums and magnetic tapes. The 704 can perform 42,000 additions or subtractions or 5,000 multiplications or divisions of ten-digit numbers in one second / USE: primarily for solving complex scientific and engineering problems / Monthly rental for an average system, \$44,000 and up. Selling price for an average system, \$1,994,000 and up. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV. *a / IBM 705 Data Processing System / DESCR: large-scale data processing system made up of interconnected units. 20,000 positions of magnetic core "memory." Magnetic drums and magnetic tapes for additional storage. 8,400 additions or 1,250 multiplications per second. Available as 705-II with 40,000 positions of magnetic core storage / USE: primarily for business problems / Monthly rental for an average system, \$33,500 and up.

Selling price for an average system, \$1,640,000 and up. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 705-III Data Processing System / DESCR: Includes ultra high-speed tape unit, IBM 729 Model 3, which can write at a rate of 62,500 characters per second, automatically checking validity and readability. Includes IBM 767 Data Synchronizer which controls magnetic tape input and output so that computer can read problem data, compute, and write answers simultaneously. Includes 40,000 positions of magnetic core memory, which can be enlarged to 80,000 positions by use of additional core storage / USE: primarily for business problems / Monthly rental for an average system, \$43,000 and up; selling price for an average system, \$2,063,000 and up. All prices exclusive of tax. / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 709 Data Processing System / DESCR: large-scale data processing system made up of inter-connected units. It can perform up to 42,000 additions or subtractions or 5,000 multiplications or divisions, each second. The 709's magnetic core storage has a capacity of over 327,000 decimal digits. A Data Synchronizer which permits the system to read, write, and calculate simultaneously also is incorporated. The 709's tape units permit information being written on magnetic tape to be automatically checked for accuracy during the writing process / USE: commercial, scientific, engineering problems / Monthly rental for an average system, \$55,200 and up. Selling price for an average system, \$2,630,000 and up. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 1401 Data Processing System / DESCR: A medium-sized solid-state data processing system. Configurations include a card system, a tape system, and a combination of the two. The 1401 may be operated as an independent system in conjunction with IBM punched card equipment, as auxiliary equipment to IBM 700 or 7000 series systems, or as a check processing system in conjunction with the IBM 1210 Model 4 Reader-Sorter. The 1401 features a new concept in high-speed printing which employs an endless chain of engraved type which moves across the face of business documents at a high rate of speed. The unit's nominal printing rate is 600 lines per minute, but when combined with a dual speed carriage which skips over blank spaces on documents at speeds far in excess of the normal printing rate, the printer can produce over 230 two-line documents per minute—equivalent to a printing speed of 4,800 lines per minute. Other standard features include magnetic core storage, magnetic tape input and out-

put, dual density tape, rewind and unload, stored program, and arithmetic and logical ability. Optional features include Advanced Programming, Compressed Tape, and Punch Feed Read / USE: primarily for business problems / for a typical card system—\$3,180 rental, \$149,300 selling; for a typical tape system—\$5,850 rental, \$233,950 selling; for a typical card/tape system—\$6,750 rental, \$271,400 selling. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 1620 Data Processing System / DESCR: A powerful, small, stored-program computer incorporating solid-state componentry and the most advanced computer circuits. Consists of two modular units, a Central Processing Unit and a Paper Tape Reader and Punch, requiring little more space than the average desk. The 1620 is a complete data processing system which can perform arithmetic and all logical and input-output operations on a production basis. Features 20,000 positions of magnetic core storage, variable field length memory, and paper tape and electric typewriter input and output / USE: for scientific computations / \$1,600 a month rental; \$74,500 selling. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 7070 Data Processing System / DESCR: A fully-transistorized high-speed data processing system utilizing modular, or "building-block" construction. The 7070 ranges in capability between medium and large-scale systems, depending on the number and types of units included. Combining the various units results in three basic types of data processing systems—a card system, a magnetic tape system, and a tape-RAMAC system. Compared to a card 650 system with drum storage, the card 7070 has two-and-one-half times the storage capacity in its magnetic core "memory" and card input-output is at least twice as fast / USE: for business and scientific problems / Monthly rental for a typical system, \$17,400. Selling price for a typical system, \$813,250. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 7080 Data Processing System / DESCR: A fully-transistorized large-scale data processing system of great power. Processes business problems up to ten times faster than the IBM 705. Features Communications Storage, which enables the transfer of information between tape units and main data storage so rapidly (1.09 micro-second character rate) that up to five tape units can be reading in or out simultaneously. The 7080's core memory is available with capacities of either 40,000, 80,000 or 160,000 characters. Word length is variable. Access to core memory is 2.18 microseconds. Another 7080 feature is Priority

Processing, a system which permits input/output devices to automatically control the flow of programs. The 7080 can accept 705-I, II, and III programs as well as those designed for use with the 7080 system / USE: for business problems / Monthly rental for a typical system, \$56,900. Selling price for a typical system, \$2,675,000. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 7090 Data Processing System / DESCR: Fully-transistorized version of the IBM 709, with improved synchronization of data transmission to and from input-output devices. Internal operation of the 7090 is five times faster than that of its predecessors. Memory consists of 32,768 words of core storage, a word consisting of 36 binary digits (equivalent to ten decimal digits). Access to core memory is 2.18 microseconds. Up to eighty tape units, eight card readers, eight card punches, and eight printers can be used with a 7090 system. The 7090 can read, write, and compute at the same time / USE: For both business and scientific problems / Monthly rental for a typical system, 63,500. Selling price for a typical system, \$2,898,000. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 604 Electronic Calculating Punch / DESCR: A general purpose calculator consisting of 604 electronic calculating unit and either the 521 or 541 punching unit. The 521 operates at 100 cards per minute; the 541 operates at 200 card per minute. The 604 reads problem data from IBM punched cards and can go through as many as 60 separate steps to obtain the solution to a single problem / USE: for business and scientific problems / Monthly rental, \$550-\$735. Selling price, \$25,900-\$34,000. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 607 Electronic Calculator / DESCR: A larger version of the IBM 604 consisting of the 607 calculating unit and either the 529 or 542 punching unit. Optional 942 electronic storage unit also can be added, if required. The 529 operates at 100 cards per minute; the 542 operates at 200 cards per minute. The 607's memory capacity makes it possible to use intermediate calculated results as well as original data in solving a problem. The 607 can go through as many as 140 separate steps to obtain the solution to a single problem / USE: for business and scientific problems / Monthly rental, \$800-\$1910 and up. Selling price, \$37,500-\$93,000. All prices exclusive of tax / C24

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM RAMAC 305 (Random Access Method of Accounting and Control) / DESCR: A me-

dium-sized business data processing system built around a disk memory unit which consists of 50 magnetic metal discs. Data is entered onto or extracted from these discs by means of a rapidly-moving access arm. Disc units can be obtained with storage capacities of 5-million and 10-million digits. Any combination of two disc files may be used, providing storage capacities of 5, 10, 15 and 20-million digits. The RAMAC 305 has arithmetical and logical processing ability, punched card input, and both punched card and printed output. Optional features include punched paper tape input; remote printing stations; dual disc files; dual access arm; dual system control; faster, more flexible printing, and Increased Processing Speed (IPS), an internal modification which can be field installed to provide reduction in processing time of up to 20% without the need for reprogramming / USE: continuous, or "in-line" accounting for all types of businesses / Monthly rental with punched card output, \$2,875 and up; with printed output, \$3,200 and up. Selling price with punched card output, \$167,850 and up; with printed output, \$189,950 and up. All prices exclusive of tax / C24

ITT Federal Div., International Telephone and Telegraph Corp.
Leeds & Northrup Co.

Librascope Division, General Precision, Inc.

The Magnavox Company

The W. L. Maxson Corporation

National Bureau of Standards, Data Processing Systems Div.

The National Cash Register Co.

Nuclear Development Corporation of America

PACKARD BELL COMPUTER CORP., 1905 Armacost Ave., Los Angeles 25, Calif. / PB 250 General purpose digital computer / DESCR: Type: Serial, binary, internal program. Command structure: Single address with index register — 46 commands. Multiply time: 276 microseconds. Memory-Type: Magnetostrictive delay lines; Capacity: 1,808 words standard, expandable to 15,888 words / USE: engineering and scientific calculations / C24

PHILCO CORP., GOVERNMENT AND INDUSTRIAL GROUP, COMPUTER DIVISION, 3900 Welsh Rd., Willow Grove, Pa. / Philco C-series / DESCR: airborne and industrial process control high-speed, general-purpose, digital computers for system control (completely transistorized drum; core memory) / USES: (airborne) fire control, cruise control, navigation, flight control; (process control) scientific and engineering computation, data processing / \$100,000 up / C24

Potter Instrument Company, Inc. — see C46

Ransom Research, Inc.

Remington Rand Univac Div. of Sperry Rand Corp.

Royal-McBee Corp.

Southwestern Industrial Electronics Co.
Sperry Gyroscope Co., Div. of Sperry Rand Corp.

Strand Engineering Co.

Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

The Teleregister Corporation

The Thompson-Ramo-Wooldridge Products Co.

Univ. of Michigan, Willow Run Labs.

Westinghouse Electric Corp., Air Arm Div.

Zator Co.

Zuse, K. G., Germany

C24A. COMPUTERS, SPECIAL PURPOSE

Addressograph-Multigraph Corp.

Aircraft Armaments, Inc.

Automation Management Inc.

Bailey Meter Co.

The Bendix Corp. — Research Laboratory Division

Bowmar Instrument Corp.

Computing Devices of Canada Ltd.

Convair — A Division of General Dynamics Corp.

Convair-Astronautics, A Division of General Dynamics Corp.

Convair Electronics (San Diego), A Division of General Dynamics Corp.

Cook Electric Co.

Daystrom, Inc., Controy Systems Div. — see S9

Daystrom Incorporated, Military Electronics Div.

Daystrom, Inc., Weston Instruments Div.
Delco Radio Div., General Motors Corp. — see C24

Di/An Controls, Inc.

Dian Laboratories, Inc.

Electric-Scientific Industries, Inc.

Epsco, Inc.

FAE Instrument Corp.

General Automatics, Inc.

General Electric Co., Computer Dept.

General Electric Co., Light Military Electronics Dept.

General Mills, Mechanical Div.

Goodyear Aircraft Corp.

HRB-Singer, Inc.

Industro Transistor Corp.

ITT Federal Div., International Telephone and Telegraph Corp.

Leeds & Northrup Co.

Librascope Division, General Precision, Inc.

Loyola Laboratories

The Magnavox Company

National Data Processing Corp.

Navigation Computer Corp.

Norden Div. of United Aircraft Corp., Data Systems Dept.

PACKARD BELL COMPUTER CORP., 1905 Armacost Ave., Los Angeles 25, Calif. / TRICE digital differential analyzer / DESCR: TRICE (transistorized realtime incremental computer expandable) is an extremely high speed (100,000 iterations/sec), completely solid-state incremental digital computer / USE: realtime simulation studies / Price: Basic TRICE System — \$115,800 / C24A

Rese Engineering Inc.

Southwestern Industrial Electronics Co.

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

Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

Technitrol Engineering Co. — see P10 Wayne-George Corp.

Westinghouse Electric Corp., Air Arm Div.

C25. COMPUTERS, TEST EQUIPMENT

Aircraft Armaments, Inc.

Airpax Electronics Incorporated

The Bendix Corp. — Research Laboratory Division

California Technical Industries

Convair-Astronautics, A Division of General Dynamics Corp.

Convair Electronics (San Diego), A Division of General Dynamics Corp.

Cook Electric Co.

Delco Radio Div., General Motors Corp. — see C24

Electro-Mec Laboratory, Inc.

GENERAL KINETICS, INC., 2611 Shirlington Rd., Arlington 6, Va. / Computer test equipment / DESCR: Magnetic tape testers, magnetic tape ultrasonic cleaners, acceptance test equipment, and specifications / — / C25

Information Systems, Inc.

Leeds & Northrup Co.

The Magnavox Company

Minneapolis-Honeywell Regulator Co., Boston Div.

Navigation Computer Corp.

Rutherford Electronics Co.

Specialties, Inc.

Statistical Instrument Co.

Strand Engineering Co.

Sunshine Scientific Instrument

Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

Technitrol Engineering Co. — see P10

Trio Laboratories, Inc.

Valor Instruments, Inc.

Westinghouse Electric Corp., Air Arm Div.

C26. COMPUTER COMPONENTS

Alvac Computer Division

Ampex Corp., Data Products Co.

Analogue Controls, Inc.

Baird-Atomic, Inc.

Bendix Corp., Eclipse-Pioneer Div.

Bowmar Instrument Corp.

Burroughs Corp., Electronic Tube Division

Cambridge Thermionic Corp.

Centralab

Chadwick-Helmuth Co.

Chrono-log Corp.

Computing Devices of Canada Ltd.

Corning Glass Works, Electronic Components Dept.

The Daven Company

Delco Radio Div., General Motors Corp. — see C24

DIALIGHT CORP., 60 Stewart Ave., Brooklyn 37, N.Y. / Computer Components / C26

DIAMONITE PRODUCTS MFG. CO., McConkey St. Ext., Shreve, Ohio / Alumina ceramics / DESCR: Fabricated to individual customer requirements. Properties: high strength; high density; low loss factor; readily metal-

lized; water absorption 0; dimensional possibilities, miniatures and normal sizes of simple and intricate design / USE: computer components / price range variation depending upon intricacies of particular item requested / C26

Di/An Controls, Inc.

Electronic Transformer Co., Inc.

Elgenco, Inc.

Epsco, Inc.

ESC Corporation — see D3

F&E Instrument Corp.

Friden, Inc. — see D1, D4, and T18

Genisco, Inc.

GPE Controls, Inc.

Gulton Industries, Inc.

The A. W. Haydon Co.

Heath Co., a subsidiary of Daystrom Inc.

Instrument Development Laboratories, Inc.

International Tel & Tel Corp., Industrial Products Div.

Kellogg Switchboard & Supply Co.

Librascope Division, General Precision, Inc.

Littelfuse, Incorporation

Maurey Instrument Corporation

Minneapolis-Honeywell Regulator Co., Boston Div.

Minneapolis-Honeywell Regulator Co., Industrial Div.

Moran Instrument Corp.

Norden Division of United Aircraft Corp.

Norton Associates, Inc.

Phaostron Instrument and Electronic Co.

George A. Philbrick Researches, Inc.

Philips Electronic Instruments

Photon, Inc.

Radio Corp. of America, Electron Tube Div.

Radio Corp. of America, Semiconductor & Materials Div.

Raytheon Company, Industrial Components Div.

Reeves Instrument Corp.

Sangamo Electric Co.

F. W. Sickles Division, General Instrument Corporation — see D3

Spectrol Electronics Corporation

Sprague Electric Co.

Sterling Precision Corp.

Stromberg-Carlson — San Diego

Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

Tally Register Corp.

Trio Laboratories, Inc.

Valor Instruments, Inc.

Wang Laboratories

Wright Engineering Co.

C27. COMPUTING SERVICES

Actuarial Computing Service, Inc.

AEC Computing and Applied Mathematics Center

Armour Research Foundation, Ill. Inst. of Techn.

Bell Aircraft Corp.

Broadview Research Corp.

Brown University Computing Center, Div. of Applied Math.

BURROUGHS CORPORATION, Detroit, Mich. / computing service, contract computing / DESCR: problem analysis, programming, coding and

running of problems on Burroughs electronic data processing machines / USE: customer may do own programming, coding, or turn over problem and data to company for solution / machines, \$90 per hour; service and time of personnel priced at fixed rates / C27

C-E-I-R, INC. (Formerly Corporation for Economic and Industrial Research), 1200 Jefferson Davis Highway, Arlington 2, Va.; N.Y. Office: 110 E. 42nd St., New York, N.Y., New York Research Center, 370 Lexington Avenue, New York, New York; Southwest Regional Office, 6422 Fannin Street, Houston, Texas; Los Angeles Office, Sunset Tower West, 8400 Sunset Blvd., Los Angeles, Calif., London Office, 11 Redcliffe Square, London S.W. 10, England / IBM 704, 709 and 7090 Computers with 32K memory / DESCR: full line of peripheral data processors. Computing and peripheral equipment available on hourly rate basis. Specialists in the application of modern analytical techniques to government, business, and financial problems. Offer a full range of services in operations research, computing, programming, data processing, sample design, market research, problem formulation, mathematical structuring / — / Hourly rates and zone allowance plan / C27

C G Electronics Corp.

Computing Devices of Canada Ltd.

Convair-Astronautics, A Division of General Dynamics Corp.

Convair Electronics (San Diego), A Division of General Dynamics Corp.

Cook Electric Co.

Cornell Computing Center

DATA PROCESSING CORPORATION, 122 E. 42nd St., New York 17, N.Y. / Also: Washington, D.C. and Phila. / Computing Services / DESCR: management and operation of data processing systems service centers, including programming and electronic computer services / C27

Data Processing, Inc.

The Daven Company

Dian Laboratories, Inc.

Electronic Associates, Inc.

Franklin Institute Computing Center

General Electric Co., Computer Dept.

GENERAL KINETICS, INC., 2611 Shirlington Rd., Arlington 6, Va. / Complete services in the fields of digital computer programming and programming research / DESCR: 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 / — / estimates made on request / C27

Institut Blaise Pascal

KCS Limited

Land-Air, Inc., Subsidiary of Calif. Eastern Aviation, Inc.

Lehigh University, Computing Lab., Packard Lab.

Massachusetts Inst. of Technology, Computation Center

Microtech Research Company
 The Moore School of Electrical Engineering, Univ. of Pa.
 National Bureau of Standards, Applied Mathematics Div.
 The National Cash Register Co.
 Nuclear Development Corporation of America
 Numerical Analysis Center, Univ. of Colo.
 George A. Philbrick Researches, Inc.
 Purdue University, Statistical and Computing Lab.
 Ransom Research, Inc.
 Rich Electronic Computer Center, Engineering Experiment Sta., Ga. Inst. of Tech.
 Scientific Computing Service Ltd.
 The Service Bureau Corp.
 Southwestern Computing Service, Inc.
 Stanford Computation Center
 System Development Corporation
 Systems Laboratories, a div. of Electronic Specialty Co.
 The Teleregister Corporation
 University of Calif., Computer Center
 Univ. of Michigan, Willow Run Labs.
 Univ. of Rochester, Computing Center
 Wayne State University Computing Center
 Westinghouse Electric Corp., Advanced System Engineering and Analytical Dept.

C28. COMPUTING SERVICES, DIGITAL

Armour Research Foundation, Ill. Inst. of Techn.
BENDIX CORP., BENDIX COMPUTER DIVISION, 5630 Arbor Vitae St., Los Angeles 45, Calif. / machine time and programming / DESCR: machine time and programming assistance on Bendix G-15 digital computer (see C24) available at factory and in several cities / USE: scientific, engineering and data processing problems / Machine time, \$25-hr.; programming, analysis, operation, \$10-hr. / C28
 Broadview Research Corp.
 C-E-I-R, Inc. — see C27
 C G Electronics Corp.
 Computing Devices of Canada Ltd.
 Cook Electric Co.
 Data Processing, Inc.
DOUGLAS AIRCRAFT CO., INC., DOUGLAS COMPUTING SERVICE, Dept. G-31, Santa Monica, Calif. / machine time / DESCR: rental of excess digital computing machine time on the wide range of business and scientific computers at Douglas / price range from \$69 per hour for Univac File Computer to \$450 per hour for IBM 709 / C28
 General Electric Co., Computer Dept.
 Manchester University, Computing Machine Lab., England
 The W. L. Maxson Corporation
 Microtech Research Company
 The National Cash Register Co.
 National Physical Laboratory, Math Div., England
 Norton Associates, Inc.
 Nuclear Development Corporation of America
 Remington Rand Univac Div. of Sperry Rand Corp.

Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

SWEDISH BOARD FOR COMPUTING MACHINERY, Drottninggatan 95A, (P.O. Box 6131), Stockholm 6, Sweden / Computing service / DESCR: mathematics, technology, data processing / C28

TECHNICAL ADVISORS, INC., Municipal Court Building, Ann Arbor, Mich. / Digital computing and technical management consulting services / DESCR: Computing services, including consultation, analysis, programming and machine time, principally in the fields of science and engineering. Staff includes engineers and scientists with practical knowledge of many technical fields and skilled at applying electronic computing techniques to the solution of problems in these fields / C28

TECHNICAL OPERATIONS, INC., Burlington, Mass. / data processing systems / DESCR: automatic programming systems and computer applications / C28

U. S. Air Force, Systems Dynamic Analysis Div., Wright Patterson AFB
 U. S. Army, Ballistic Research Laboratories, Aberdeen Proving Ground
 U. S. Naval Weapons Lab., Dahlgren
 U. S. Navy, Aviation Supply Office
 University of Cambridge, Univ. Mathematical Lab., England
 Univ. of Michigan, Willow Run Labs.
 Westinghouse Electric Corp., Advanced System Engineering and Analytical Dept.
 Zator Co.

C29. CONNECTORS

Accurate Electronics Corp.
 Alden Products Co.
 AMP, Inc.
 Amphenol Connector Div., Amphenol-Borg Electronics Corp.
 ELCO Corp.
 Gulton Industries, Inc.
 Industrial Products-Danbury Knudsen Div., Amphenol-Borg Electronics Corp.
 Winchester Electronics, Inc.

C30. CONSULTING SERVICES

American Research and Mfg. Corp.
 A R & D A
 Auerbach Electronics Corp.
 Automation Consultants, Inc.
 Automation Engineers
 Automation Management Inc.
 Booz, Allen and Hamilton
C-E-I-R, INC. (Formerly Corporation for Economic and Industrial Research), 1200 Jefferson Davis Highway, Arlington 2, Va.; N.Y. Office: 110 E. 42nd St., New York, N.Y., New York Research Center, 370 Lexington Ave., New York, N.Y.; Southwest Regional Office, 6422 Fannin St., Houston, Tex.; Los Angeles Office, Sunset Tower West, 8400 Sunset Blvd., Los Angeles, Calif.; London Office, 11 Redcliffe Square, London S.W. 10, England / IBM 704, 709, and 7090 Computers with 32K memory / DESCR: full line of peripheral data processors. Computing and peripheral equipment

available on hourly rate basis. Specialists in the application of modern analytical techniques to government, business, and financial problems. Offer a full range of services in operations research, computing, programming, data processing, sample design, market research, problem formulation, mathematical structuring / — / Hourly rates and zone allowance plan / C30

C G Electronics Corp.
 Computing Devices of Canada Ltd.
 Data Processing, Inc.
 John Diebold & Associates, Inc.
 Arnold I. Dumey
 Ebasco Services Inc.
 Fischbach, McCoach & Associates, Inc.
H. S. GELLMAN & CO., LTD., 481 University Ave., Toronto 2, Ont., Canada / consulting services / electronic data processing consultants. Feasibility studies, programming services, operations research, training of clients' personnel / C30
 General Electric Co., Computer Dept.
 The Geotechnical Corp.
 Gulton Industries, Inc.
 HRB-Singer, Inc.
 Information Systems, Inc.
 KCS Limited
 A. T. Kearney & Co.
 Edwin A. Lipps Engineering
 Loyola Laboratories
 Microtech Research Company
H. JEFFERSON MILLS, JR., Management Consultant, 122 East 42nd St., New York 17, N.Y. / Consulting Services / DESCR: management counsel in systems analysis, equipment evaluation, organization and facilities planning; personnel recruitment, selection and training; and installation programs for electronic computers and other automatic data processing applications in business, industry and government / — / C30
 The Moore School of Electrical Engineering, Univ. of Pa.
 Nuclear Development Corporation of America
 Ransom Research, Inc.
 Scientific Computing Service Ltd.
SUTHERLAND CO., 1112 First National Bank Bldg., Peoria, Ill. / consulting services / DESCR: Information systems specialists within the management and operational environment. Practical application of advanced scientific management and operations research techniques to provide optimum decision criteria and summary-control and exception-type reports from information processing, storage and retrieval systems. Evaluation, analysis, documentation, computer programming, and utilization of other information processing equipment / USE: clients in industry, commerce and government / billing based on work assignment / C30
SWEDISH BOARD FOR COMPUTING MACHINERY, Drottninggatan 95A (P.O. Box 6131), Stockholm 6, Sweden / Computing service / DESCR: mathematics, technology, data processing / C30
 Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

System Development Corporation
Systems Laboratories, a div. of Electronic Specialty Co.

Technical Advisors, Inc. — see C28
Technical Information Co. (England)
Technical Operations Inc., Monterey, Calif. — see O2

TECHNICAL OPERATIONS, INC.,
Burlington, Mass. / data processing systems / DESCR: automatic programming systems and computer applications / C30

U. S. Naval Weapons Lab., Dahlgren
The George Washington University, Logistics Research Project
Woods, Gordon & Co.

C31. CONTROLS

Airpax Electronics Incorporated
Assembly Products, Inc.
Automation Management Inc.
Bendix Corp., Bendix-Pacific Div.
Consolidated Controls Corp.
Data Systems Dept., Norden Div, United Air Craft Corp.
Daystrom, Inc., Weston Instruments Div.
Di/An Controls, Inc.
Fenwal, Inc.
Goodyear Aircraft Corp.
General Electric Co., Computer Dept.

HARVEY-WELLS ELECTRONICS, INC.,
Research and Development Division, E. Natick Industrial Park, Natick, Mass. / building blocks / DESCR: 5-megacycle Data Bloc and Data Pac, high speed digital logic building blocks, an entirely new concept in computer control systems. Logic units, decade scalars, shift registers, counters and power supplies are included in the Harvey-Wells line of digital building blocks / USE: in data handling, data conversion, process control and automation, missile tracking systems and radar simulation. The Data Bloc units are primarily intended for planning and prototype work. Data Pacs are used for subsequent production runs / — / C31

The A. W. Haydon Co.
Information Systems, Inc.
The Walter S. Kraus Co.
Leeds & Northrup Co.
Microtech Research Company
Miles Reproducer Co., Inc.
Ransom Research, Inc.
Specialties, Inc.
Tally Register Corp.
Wiancko Engineering Co.

C32. CONTROLS, AUTOMATIC

Airpax Electronics Incorporated
American Research and Mfg. Corp.
Assembly Products, Inc.
Bailey Meter Co.
Bendix Corp., Eclipse-Pioneer Div.
The Bendix Corp. — Research Laboratory Division
Consolidated Controls Corp.
Consolidated Electrodynamics Corp.
Convair/Pomona, A Division of General Dynamics Corp.
Data Systems Dept., Norden Div, United Air Craft Corp.
Daystrom, Inc., Weston Instruments Div.
Electro Instruments, Inc.
FAE Instrument Corp.
General Controls Co.

General Electric Co., Computer Dept.
Gulton Industries, Inc.
The A. W. Haydon Co.
Information Systems, Inc.
Leeds & Northrup Co.
Miles Reproducer Co., Inc.
Strand Engineering Co.
Tally Register Corp.
Vickers Inc., Electric Products Division (a Div. of Sperry-Rand Corp.)
Wiancko Engineering Co.

C33. CONTROLS, SIGNALING

American Electronics, Inc.
Automation Management Inc.
Babcock Radio Engineering Inc.
Bowmar Instrument Corp.
Consolidated Controls Corp.
The A. W. Haydon Co.
Industrial Nucleonics Corp.
Information Systems, Inc.
Leeds & Northrup Co.
Miles Reproducer Co., Inc.
Panellit—A Division of Information Systems, Inc.
Shand and Jurs Co.
Union Switch & Signal, Div. of Westinghouse Air Brake Co.
Vickers Inc., Electric Products Division (a Div. of Sperry-Rand Corp.)

C34. CONTROLS, SORTING AND COUNTING

Automation Management Inc.
Baird-Atomic, Inc.
Consolidated Controls Corp.
Di/An Controls, Inc.
General Electric Co., Computer Dept.
The A. W. Haydon Co.
National Data Processing Corp.
Strand Engineering Co.

C35. CONVERTERS, ELECTRICAL

Airpax Electronics Incorporated
American Research and Mfg. Corp.
Audio Instrument Co., Inc.
Daystrom, Inc., Weston Instrument Div.
Electro Instruments, Inc.
Gulton Industries, Inc.
Walter Kidde & Co., Inc.
Minneapolis-Honeywell Regulator Co., Industrial Div.
Ransom Research, Inc.
Vickers Inc., Electric Products Div. (a Div. of Sperry-Rand Corp.)

C36. CONVERTERS, ELECTRICAL HIGH FREQUENCY

Electro Instruments, Inc.
Gulton Industries, Inc.
Strand Engineering Co.

C37. CONVERTERS, ELECTRICAL, LOW FREQUENCY

Airpax Electronics Incorporated
Electro Instruments, Inc.
Gulton Industries, Inc.

C38. CONVERTERS, ELECTRICAL, POWER FREQUENCY

American Research and Mfg. Corp.
Consolidated Controls Corp.
Gulton Industries, Inc.
Vickers Inc., Electric Products Division (a Div. of Sperry-Rand Corp.)

C39. CONVERTERS, INFORMATION

Airpax Electronics Incorporated

Auerbach Electronics Corp.
Automation Management Inc.
Beckman Systems Div.
Cook Electric Co.
Daystrom, Inc., Weston Instruments Div.
Electro Instruments, Inc.
Fisher & Porter Co.
Friden Inc. — see D1, D4, and T18
The Geotechnical Corp.
Gulton Industries, Inc.
The A. W. Haydon Co.
Radiation, Inc.
Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

C40. CONVERTERS, INFORMATION, ANALOG TO DIGITAL

Airflyte Electronics Co.
Airpax Electronics Incorporated
Analogue Controls, Inc.
Arma Div., American Bosch Arma Corp.
Assembly Products, Inc.
Bailey Meter Co.
Bendix Corp., Bendix-Pacific Div.
Bendix Corp., Eclipse-Pioneer Div.
The Bendix Corp. — Research Laboratory Division
Burlingame Associates, Ltd.
Colorado Research Corp.

CONSOLIDATED CONTROLS CORP.,
Bethel, Conn. / magnetic shaft position encoder / DESCR: shaft position to digital voltage encoder; magnetic pickoffs operate out of contact with no wear / USE: digital position feed back / price on request / C40

Consolidated Electrodynamics Corp.
Cubic Corp.
Datex Corp.
Daystrom, Inc., Control Systems Div. — see S9

Daystrom, Inc., Weston Instruments Div.
Electro Instruments, Inc.
Electro-Mechanical Research, Inc., AS-COP Div.
Electro-Mec Laboratory, Inc.
Fisher & Porter Co.
Gulton Industries, Inc.
The A. W. Haydon Co.
Hoover Electronics Co.
ITT Federal Div., International Telephone and Telegraph Corp.
The Magnavox Company
The W. L. Maxson Corporation
Minneapolis-Honeywell Regulator Co., Industrial Systems Div.

NON-LINEAR SYSTEMS INC., Del Mar Airport, Del-Mar, Calif. / Analog to Digital Convertors and Data Logging Systems / DESCR: convert electrical parameters into digital visual and electrical form. Complete systems permit automatic recording of up to 1000 input channels / USE: computer set-up and solution recording / converters, \$985 to \$8500; systems, \$7000 to \$80,000 / C40

Norden Division of United Aircraft Corp.

PACKARD BELL COMPUTER CORP., 1905 Armacost Ave., Los Angeles 25, Calif. / Multiverter analog-to-digital converter / DESCR: a series of highly accurate, high speed analog-to-digital, digital-to-analog converters. Completely transistorized, they are small in size and require little power / USE: data

conversion / \$4,500 to \$14,000 / C40
Shand and Jurs Co.
Southwestern Industrial Electronics Co.
Statistical Instrument Co.
Strand Engineering Co.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products, Inc., Data
Systems Operations
Wayne-George Corp.
Westinghouse Electric Corp., Air Arm
Div.

C41. CONVERTERS INFORMATION, CARD TO MAGNETIC TAPE

Addressograph-Multigraph Corp.
Di/An Controls, Inc.
National Data Processing Corp.
Remington Rand Univac Div. of Sperry
Rand Corp.
Rese Engineering Inc.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Technitrol Engineering Co. — see p10

C42. CONVERTERS, INFORMATION, CARD TO PAPER TAPE

American Electronics, Inc.
Data Systems Div., American Electronics,
Inc.
Di/An Controls, Inc.

**INTERNATION BUSINESS MACHINES
CORP., DATA PROCESSING DIV.,**
112 East Post Rd., White Plains, N.Y.
/ IBM 63 Card-Controlled Tape Punch
/ DESCR: The 63 reads alphabetical
and numerical information in IBM
punched cards and perforates 5-channel
telegraphic paper tape with that data.
The machine consists of a card reading
unit and a tape punching unit / USE:
to automatically convert data from
punched cards to telegraphic tape that
can be transmitted by commercial wire
services / Monthly rental, \$75. Selling
price, \$3,600. All prices exclusive of
tax / C42

National Data Processing Corp.
Remington Rand Univac Div. of Sperry
Rand Corp.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Systems Laboratories, a div. of Electronic
Specialty Co.
Tally Register Corp.
Technitrol Engineering Co. — see p10

C43. CONVERTERS, INFORMATION, COMPUTING

Airpax Electronics Incorporated
Automation Management Inc.
**BENDIX CORP., BENDIX COMPUTER
DIVISION,** 5630 Arbor Vitae St., Los
Angeles 45, Calif. / AN-1 alphanu-
meric adapter / DESCR: enables Ben-
dix G-15 general purpose digital com-
puter to read or punch codes via pa-
per tape or other media, of other data
handling, computing and communica-
tion devices (see C24) / sale \$11,250;
lease \$450 per month / C43
Computer Control Company, Inc.
Hermes Electronics Co.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations

C44. CONVERTERS, INFORMATION, DIGITAL TO ANALOG

Airlyte Electronics Co.
Airpax Electronics Incorporated
Analogue Controls, Inc.
Arma Div., American Bosch Arma Corp.
Automation Management Inc.
Cook Electric Co.
Daystrom, Inc., Control Systems Div. —
see S9
Electro Instruments, Inc.
Electro-Mechanical Research, Inc., AS-
COP Div.
Gulton Industries, Inc.
The A. W. Haydon Co.
Instrument Development Laboratories,
Inc.
The Magnavox Company
PACKARD BELL COMPUTER CORP.,
1905 Armacost Ave., Los Angeles 25,
Calif. / Multiverter analog-to-digital
converter / DESCR: a series of highly
accurate, high-speed analog-to-digital,
digital-to-analog converters. Complet-
ely transistorized, they are small in size
and require little power / USE: data
conversion / \$4,500 to \$14,000 / C44
Southwestern Industrial Electronics Co.
Systems Laboratories, a div. of Electronic
Specialty Co.
Westinghouse Electric Corp., Air Arm
Div.

C45. CONVERTERS, INFORMATION, MAGNETIC TAPE TO CARD

Consolidated Electrodynamics Corp.
Di/An Controls, Inc.
National Data Processing Corp.
Remington Rand Univac Div. of Sperry
Rand Corp.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Technitrol Engineering Co. — see P10

C46. CONVERTERS, INFORMATION, MAGNETIC TAPE TO PAPER TAPE

Daystrom, Inc., Control Systems Div. —
see S9
Di/An Controls, Inc.
National Data Processing Corp.
POTTER INSTRUMENT COMPANY,
INC., Sunnyside Blvd., Plainview, L.I.,
N.Y. / high speed printers and tape
transports, including reading heads and
amplifiers. Transistorized for use as
computer input-output devices. Also
systems using these components /
Prices: transports and printers, \$3,000
to \$15,000 / C46
Remington Rand Univac Div. of Sperry
Rand Corp.
Smith-Corona Marchant Inc.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Tally Register Corp.
Technitrol Engineering Co. — see P10

C47. CONVERTERS, INFORMATION, PAPER TAPE TO CARD

American Electronics, Inc.
Data Systems Div., American Electronics
Inc.
Di/An Controls, Inc.
Friden, Inc. — See D1, D4, and T18
INTERNATIONAL BUSINESS MA-

CHINES CORP., DATA PROCESS-
ING DIV., 112 East Post Rd., White
Plains, N.Y. / IBM 46 Tape-to-Card
Punch / DESCR: The 46 reads al-
phabetic or numerical information
from a punched paper tape and con-
verts it to IBM punched cards / USE:
Model 1 reads 5 and 8-channel tape;
Model 2 reads 8-channel only. 5 chan-
nel tapes can be transmitted by com-
mercial wire services / Monthly rental,
Model 1, \$140; Model 2, \$135. Sell-
ing prices, Model 1, \$6,300; Model 2,
6,050. All prices exclusive of tax /
C47

INTERNATIONAL BUSINESS MA-
CHINES CORP., DATA PROCESS-
ING DIV., *a / IBM 47 Tape-to-Card
Printing Punch / DESCR: The 47
reads alphabetic or numeric informa-
tion from a punched paper tape and
converts it to IBM punched cards.
With the 47, any information punched
may be printed along the top of the
cards. The printed characters will ap-
pear in the same column as their cor-
responding punched / USE: Model 1
reads 5 and 8-channel tape. Model 2
reads 8-channel tape only / Monthly
rental prices, Model 1, \$160; Model 2,
\$155. Selling prices, Model 1, \$7,200;
Model 2, \$6,950. All prices exclusive
of tax / C47

National Data Processing Corp.
Remington Rand Univac Div. of Sperry
Rand Corp.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Tally Register Corp.
Technitrol Engineering Co. — see P10

C48. CONVERTERS, INFORMATION, PAPER TAPE TO MAGNETIC TAPE

Daystrom, Inc., Control Systems Div. —
see S9
Di/An Controls, Inc.
Ferranti Electric, Inc.
National Data Processing Corp.
Potter Instrument Company, Inc. — see
C46
Remington Rand Univac Div. of Sperry
Rand Corp.
Smith-Corona Marchant Inc.
Sylvania Electronic Systems, A Div. of
Sylvania Electric Products Inc., Data
Systems Operations
Tally Register Corp.
Technitrol Engineering Co. — see P10

C49. CORDS

Alden Products Co.
Royal Electric Corp.

C50. CORES

The Arnold Engineering Co.
CBS Electronics
Ferrocube Corp. of America
Radio Corp. of America, Semiconductor
& Materials Div.

C51. CORES, FERRITE

Ferrocube Corp. of America
Radio Corp. of America, Semiconductor
& Materials Div.
Stackpole Carbon Co.
D. M. Steward Manufacturing Co.

C52. CORES, MAGNETIC

The Arnold Engineering Co.
Dynacor, Inc., a subsidiary of Sprague Electric Co.
Radio Corp. of America, Semiconductor & Materials Div.
Stackpole Carbon Co.
D. M. Steward Manufacturing Co.

C53. COUNTERS

Baird-Atomic, Inc.
Burroughs Corp., Electronic Tube Division
Chrono-log Corp.
Delco Radio Div., General Motors Corp. — see C24
Di/An Controls, Inc.
Electro Instruments, Inc.
Engineered Electronics Co.
General Controls Co.
The A. W. Haydon Co.
Hillburn Electronic Products Co.
Ransom Research, Inc.
The Teleregister Corporation

C54. COUNTERS, ELECTRONIC

American Electronics, Inc.
Baird-Atomic, Inc.
Bowmar Instrument Corp.
Burroughs Corp., Electronic Tube Division
Data Systems Div., American Electronics, Inc.
Delco Radio Div., General Motors Corp. — see C24
Di/An Controls, Inc.
Electro Instruments, Inc.
Hewlett-Packard Co.
Strand Engineering Co.
The Walkirt Co. — see C10

C55. COUNTERS, FREQUENCY

Automation Management Inc.
Burroughs Corp., Electronic Tube Division
Di/An Controls, Inc.
Electro Instruments, Inc.
Hewlett-Packard Co.
Navigation Computer Corp.

C56. COUNTERS, MECHANICAL

American Electronics, Inc.
Bowmar Instrument Corp.
Chrono-log Corp.
Data Systems Div., American Electronics, Inc.
FAE Instrument Corp.
Fisher & Porter Co.

C57. COUNTERS, PROPORTIONAL

Baird-Atomic, Inc.
Bowmar Instrument Corp.
Electro Instruments, Inc.
The A. W. Haydon Co.

C58. COURSES BY MAIL (COMPUTER FIELD)

EDMUND C. BERKELEY & ASSOCIATES, 815 Washington St., Newtonville 60, Mass. / Courses by Mail / DESCR: over 30 courses by mail in automatic computers, mathematics, construction of small electric brain machines, construction of small robots, symbolic logic, and other scientific subjects / USE: instruction / \$25 to \$60 / C58

THE PHILCO TECHNOLOGICAL CENTER, P. O. Box 4730, Philadelphia 34, Penna. / computer and transistor correspondence courses / DESCR: basic theory, operational aspects and transistor correspondence courses and applications of analog and digital computers, including computational mathematics, programming, installation, maintenance, operation and manufacturing techniques of all makes / USE: instruction / \$40 to \$125 / C58

D1. DATA PROCESSING MACHINERY

Addo-x Inc. — see A1
Addressograph-Multigraph Corp.
Aeronca Mfg. Corp., Aerospace Div.
Auerbach Electronics Corp.
American Electronics, Inc.
Automation Engineers
Automation Management Inc.
Bailey Meter Co.
Beckman Instruments, Inc., Scientific and Process Instruments Div.
Beckman Systems Div.
Bendix Corp., Bendix-Pacific Div.
CG Electronics Corp.
Clarkson Press Inc.
Collins Radio Co.
Colorado Research Corp.
Cubic Corp.
Data Systems Div., American Electronics, Inc.
Data Systems Dept., Norden Div, United Air Craft Corp.
Daystrom, Inc., Control Systems Div. — see S9
Di/An Controls, Inc.
Digitronics Corp.
Electro Instruments, Inc.
Electro-Mechanical Research, Inc.
Electro-Mechanical Research, Inc., ASCOP Div.
Electronic Associates, Inc.
Electronics Development Corp.
Ferranti-Packard Electric Ltd., Electronics Div.

FRIDEN, INC., San Leandro, Calif. / Add-Punch / DESCR: ten-key electric adding and listing machine that produces a standard adding machine tape as an original source document and, as an automatic by-product, punches complete or select data on a common language tape for subsequent data processing; has visible check dials which show each item entered before adding, printing, or punching / USE: to record data at source level for integrated data processing by card-punch or other common-language machines / D1

FRIDEN, INC., San Leandro, California / Collectadata / DESCR: automatic data collection system. Any number of transmitters are located throughout plant, or wherever data originates. Data in punched tape, edge-punched cards, or tab cards is channeled to central point for subsequent processing / USE: provides up-to-the-minute records for production and inventory control, expediting, timekeeping, billing, etc. Eliminates handwritten reports / D1

FRIDEN, INC., San Leandro, Calif. / Friden Computyper / DESCR: electro-mechanical automatic writing-calculating machine. Automatic input from punched tape, edge-cards, or tab cards, or manual input from standard typewriter keyboard; all calculations performed and printed automatically. With coded input, production of original documents and integrated records is automatic. Machine has full compatibility with variety of auxiliary input-output units. USE: billing or invoicing with simultaneous punching of tab cards and by-product punched tape for automatic processing or wire transmission; computer input; sales and purchase order writing; payroll computing / D1

General Electric Co., Computer Dept.
The Geotechnical Corp.
Goodyear Aircraft Corp.
Hogan Faximile Corp.
Information Systems, Inc.

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., 112 East Post Rd., White Plains, N.Y. / IBM Series 1200 Character Sensing Equipment / DESCR: A new electronic system for the automatic handling of bank checks. The new Series 1200 equipment makes use of an Arabic character "common language" which can be read by both men and machines. These characters, representing the amount, bank number, and other essential data, are imprinted on each check in magnetic ink. The Series 1200 equipment reads this information from each check, proves and accumulates totals for all checks being processed, sorts the checks into desired sequence, and posts check data directly into an IBM data processing system for a completely automatic check processing operation. The new Series 1200 equipment consists of four units: a utility inscriber, proof inscriber, reader-sorter and a control unit. Series 1200 equipment can be used with the RAMAC 305, 650, 705, 1401, and 7070 data processing systems to meet the needs of banks of various sizes / USE: automatic check handling / PRICES: for "average" systems, monthly rentals range from \$5,280 (1200/1401) to \$60,000 (1200/705); selling prices range from \$236,150 (1200/1401) to \$2,800,000 (1200/705) / D1

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV. *a / IBM Data Transceiver / DESCR: a machine which transmits and receives IBM punched card data over leased telephone or telegraph circuits. Available in two models, the 65 non-printing Data Transceiver, and the 66 Printing Data Transceiver / USE: for transmitting and receiving scientific and business data between remote locations / Monthly rental, \$175 for non-printing model and \$195 for printing model. Selling price, \$8,100 for non-printing model and \$9,500 for printing model. All prices exclusive of tax / D1

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESS-

ING DIV. *a / IBM 357 Data Collection System / DESCR: An in-plant electronic communications network which enables production employees to flash work-in-progress reports to a centrally-located manufacturing control center. The equipment employs instantaneous punched card-to-card transmission and consists of a network of input (reporting) stations on the production line and a card punch output station in the control center. Punching of "job" cards and "man" cards on the line activates the output punch which creates transaction cards automatically. When run through standard data processing equipment, these cards produce reports for use by management. The 357 system transmits over multi-wire DC cable or via telephone lines and switching facilities. Input stations can be located as far as a cable mile from the central output punch. Up to 20 input stations can feed into each output station, depending on input volume / USE: enables management to exercise closer control over production operations by bridging the gap between the manufacturing floor and the administrative staff / Monthly rental for a typical 357 system (ten input stations, one output punch, and related equipment), \$1,050; selling price, \$42,665. All prices exclusive of tax / D1

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV. *a / IBM Data Transceiver with Digital Subset Feature / DESCR: the Transceiver equipped with the Digital Subset Feature transmits and receives IBM punched card data over *conventional* dial-telephone lines at regular message rates, or over new high-speed telegraph circuits. Equipped with the Digital Subset Feature, the IBM Data Transceiver may be connected by dialing with any similarly-equipped Transceiver anywhere in the country. Available in two models, the IBM 65 non-printing Data Transceiver and the IBM 66 printing Data Transceiver. The Digital Subset Feature may be installed on Transceiver equipment now in use with leased lines. A switch permits operation over either conventional lines with this feature, or over leased lines as a standard Transceiver / USE: for transmitting and receiving scientific and business data between remote locations / Monthly rental, \$195 for non-printing Transceiver with Digital Subset Feature, and \$215 for printing Transceiver with Digital Subset Feature. Selling price, \$8,825 for non-printing Transceiver with Digital Subset Feature, and \$10,225 for printing Transceiver with Digital Subset Feature. All prices exclusive of tax / D1

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV. *a / IBM 7701 Magnetic Tape Transmission Terminal / DESCR: a fully-transistorized machine which transmits and receives magnetic tape data over telephone and telegraph lines at the speed of 150 characters a

second. The 7701 operates on either toll or leased circuits. Operation is similar to ordinary telephone procedure. The operator in the sending location places a standard reel of magnetic tape on the 7701 and then dials the phone number of the receiving location. Learning that data is to be sent, the operator at the receiving location verifies that the receiving 7701 is prepared to record the transmission. Data from the 7701 passes through a modulating subset provided by the telephone or telegraph company, through the communication circuits to a demodulating subset at the other end, and into the receiving 7701. When the information has been received, both operators simply hang up their telephones. The 7701 will transmit and receive all 7-track, 200-character-per-inch Mylar magnetic tapes used on the IBM 727, 729-I, 729-II and 729-IV tape units. Switch selection is provided for either binary coded decimal or binary tapes. The 7701 features automatic correction of tape reading and writing errors, plus errors in transmission / USE: for transmitting and receiving scientific and business data between remote locations / Monthly rental, \$1,175. Selling price, \$55,000. All prices exclusive of tax / D1

A. Kimball Co.

The Magnavox Company

The National Cash Register Co.

National Data Processing Corp.

PHILCO CORP., GOVERNMENT AND INDUSTRIAL GROUP, COMPUTER DIVISION, 3900 Welsh Rd., Willow Grove, Pa. / Philco 2000 / DESCR: large-scale, general-purpose, all-transistor data processing system; extremely high speed / USE: business, scientific, engineering, military and simulation computation and data processing / Selling price, \$1,200,000 up; monthly rental \$27,500 / D1

Radiation, Inc.

Remington Rand Univac Div. of Sperry Rand Corp.

Rese Engineering Inc.

Royal-McBee Corp.

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

The Standard Register Co.

Strand Engineering Co.

Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

Tally Register Corp.

Telemeter Magnetics Inc.

The Teleregister Corporation

Univ. of Michigan, Willow Run Labs.

The Wright Line, Inc.

Zuse, K. G., Germany

D2. DATA RECORDING EQUIPMENT

Addo-x Inc.— see A1

Aeronca Mfg. Corp., Aerospace Div.

Alden Products Co.

Allegany Instrument Co., Inc.

American Electronics, Inc.

Ampex Corp., Data Products Co.

Auerbach Electronics Corp.

Automation Management Inc.

AUTONETICS, a Div. of North American Aviation, Inc., 9150 E. Imperial Hwy., Downey, Calif. / data recording equipment / D2

Bailey Meter Co.

Benson-Lehner Corp.

Century Electronics & Instruments, Inc.

CG Electronics Corp.

Chadwick-Helmuth Co.

Collins Radio Co.

Comptometer Corp.

Consolidated Electroynamics Corp.

Cook Electric Co.

Data Systems Div., American Electronics, Inc.

Datex Corp.

Dennison Mfg. Co., Machine Systems Div.

Di/An Controls, Inc.

Electro Instruments, Inc.

Fisher & Porter Co.

Flight Research, Inc.

General Electric Co., Computer Dept.

The Geotechnical Corp.

Gulton Industries, Inc.

Hogan Faximile Corp.

Information Systems, Inc.

Leeds & Northrup Co.

The Magnavox Company

The National Cash Register Co.

National Data Processing Corp.

POTTER INSTRUMENT COMPANY,

INC., Sunnyside Blvd., Plainview, L.I., N.Y. / high speed printers and tape transports, including reading heads and amplifiers. Transistorized for use as computer input-output devices. Also systems using these components /

Prices: transports and printers, \$3,000 to \$15,000 / D2

Remington Rand Univac Div. of Sperry Rand Corp.

Shand and Jurs Co.

Smith-Corona Marchant Inc.

The Standard Register Co.

Tally Register Corp.

Technitrol Engineering Co.— see P10

D2A. DATA REDUCTION EQUIPMENT

Alwac Computer Division

Automation Management Inc.

CG Electronics Corp.

Cook Electric Co.

Di/An Controls, Inc.

Electro-Mechanical Research, Inc.

Electro-Mechanical Research, Inc., AS-COP Div.

Franklin Electronics Inc.

General Electric Co., Computer Dept.

The Geotechnical Corp.

Gulton Industries, Inc.

Hogan Faximile Corp.

Industrial Nucleonics Corp.

Information Systems, Inc.

Leeds & Northrup Co.

NON-LINEAR SYSTEMS INC., Del Mar

Airport, Del Mar, Calif. / Oscillogram

trace readers / DESCR: converts trace

deflections into digital form, applies

linear or non-linear calibrations and

records time and data in column form

on electric typewriter / USE: simplifies

and speeds reduction of oscillographic

data / \$20,000 / D2A

POTTER INSTRUMENT COMPANY,

INC., Sunnyside Blvd., Plainview, L.I.,

N.Y. / high speed printers and tape

transports, including reading heads and amplifiers. Transistorized for use as computer input-output devices. Also systems using these components / Prices: transports and printers, \$3,000 to \$15,000 / D2A

Remington Rand Univac Div. of Sperry Rand Corp.

Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

Tally Register Corp.

Wiancko Engineering Co.

D3. DELAY LINES (COMPUTER TYPES)

AMP, Inc.

Andersen Laboratories, Inc.

Arenberg Ultrasonic Lab., Inc.

Audio Instrument Co., Inc.

Richard D. Brew and Co., Inc.

Columbia Technical Corp.

Corning Glass Works, Electronic Components Dept.

Thomas A. Edison Industries

Edo Corp.

El-Rad Manufacturing Company

ESC CORP., 534 Bergen Blvd., Palisades Park, N.J. / Delay Lines / DESCR: video type delay lines both fixed and variable, lumped or distributed constant; catalogue items or to customer specs. in ranges from millimicroseconds to thousands of microseconds / USE: computers, telemetering, missile guidance and telemetering, radar, fire control, air traffic control systems / \$5 and up / D3

Ferranti Electric, Inc.

Gulton Industries, Inc.

Helipot Div. of Beckman Instruments, Inc.

Hermes Electronics Co.

National Bureau of Standards, Data Processing Systems Div.

The Ralph M. Parsons Co., Electronics Div.

F. W. SICKLES DIVISION, GENERAL INSTRUMENT CORPORATION, 165 Front St., Chicopee, Mass. / Delay lines / DESCR: Lumped constant and distributed constant delay lines; fixed, tapped and step variable delays, printed circuit board mounting, rack mounting, encapsulated or metal encased / USE: pulse and video delay, pulse storage, pulse integration, coding and decoding, etc. / \$.30 to \$1000 each / D3

Technitrol Engineering Co. — see P10

Valor Instruments, Inc.

D4. DESK CALCULATORS

Addo-x Inc. — see A1

Comptometer Corp.

FRIDEN, INC., San Leandro, Calif. / automatic desk calculators / DESCR: add, subtract, multiply, divide automatically; wide variety of styles including Model SRW for automatic extraction of square root and new Model SBT with automatic "back transfer," grand totals, and fractional-cent adjustment / USE: desk calculation of all kinds / \$475 to \$1300 (taxes not included) / D4

Remington Rand Div. of Sperry Rand Corp.

Univ. of Michigan, Willow Run Labs.

D5. DIALS

Helipot Div. of Beckman Instruments, Inc.

Monroe Industries, Inc.

Reeves Instrument Corp.

D6. DIFFERENTIAL ANALYZERS AUTONETICS, a Div. of North American

Aviation, Inc., 9150 E. Imperial Hwy., Downey, Calif. / differential analyzers / D6

BENDIX CORP., BENDIX COMPUTER DIVISION, 5630 Arbor Vitae St., Los Angeles 45, Calif. / DA-1 digital differential analyzer / DESCR: 104 integrators, 104 constant multipliers. Operates as accessory to Bendix G-15 general purpose digital computer. Uses all G-15 input-output devices (see C24). Can be used as DDA alone when connected to G-15 or as combination general purpose computer and DDA / USE: easy solution to differential equations / \$13,700, sale; \$550 a mo., lease (G-15 general purpose computer also required) / D6

Bowmar Instrument Corp.

Gulton Industries, Inc.

D7. DIODES (COMPUTER TYPES)

Amperex Electronic Corp.

CBS Electronics

International Diode Corp.

International Rectifier Corp.

National Bureau of Standards, Data Processing Systems Div.

PHILCO CORP., LANSDALE DIV., Church Rd., Lansdale, Pa. / tunnel diode / DESCR: peak current — 1 ma \pm 2.5%, f_{max} 15 mc +, capacity, 5 $\mu\mu\text{f}$, series resistance, 1 ohm, series inductance, m μh y. Germanium / USE: switching element / \$10 / D7

Radio Corp. of America, Semiconductor & Materials Div.

Raytheon Company, Semiconductor Div.

Transitron Electronic Corp.

D8. DIODES (COMPUTER TYPES), GERMANIUM

General Transistor Corp.

International Diode Corp.

Raytheon Company, Semiconductor Div.

Transitron Electronic Corp.

Westinghouse Electric Corp., Semiconductor Dept.

D9. DIODES (COMPUTER TYPES), POWER

Delco Radio Div., General Motors Corp. — see C24

International Rectifier Corp.

Radio Corp. of America, Semiconductor & Materials Div.

Raytheon Company, Semiconductor Div.

Transitron Electronic Corp.

Westinghouse Electric Corp., Semiconductor Dept.

D10. DIODES (COMPUTER TYPES), SILICON

Delco Radio Div., General Motors Corp. — see C24

Hoffman Electronics Corp., Semiconductor Div.

International Rectifier Corp.

Motorola, Inc., Semiconductor Prod. Div.

Radio Corp. of America, Semiconductor & Materials Div.

Raytheon Company, Semiconductor Div.

Transitron Electronic Corp.

U. S. Semiconductor Products, a Div. of United Industrial Corp.

Westinghouse Electric Corp., Semiconductor Dept.

D11. DISCS, MAGNETIC

Bryant Computer Products Division

D12. DRUMS, MAGNETIC

Alvac Computer Division

Bryant Computer Products Division

CONSOLIDATED CONTROLS CORP., Bethel, Conn., / dynastat recording drum / DESCR: magnetic drum for digital information storage whose output is totally independent of drum speed / USE: program control, automation, robot memory (depends on application) / price on request / D12

Ferranti Electric, Inc.

Imtra Corp.

Miles Reproducer Co., Inc.

Norton Associates, Inc.

Strand Engineering Co.

E0. ECONOMIC RESEARCH

Broadview Research Corp.

C-E-I-R, INC. (Formerly Corporation for Economic and Industrial Research), 1200 Jefferson Davis Highway, Arlington 2, Va.; N.Y. Office: 110 E. 42nd St., New York, N.Y., New York Research Center, 370 Lexington Ave., New York, N.Y.; Southwest Regional Office, 6422 Fannin St., Houston, Tex.; Los Angeles Office, Sunset Tower West, 8400 Sunset Blvd., Los Angeles, Calif.; London Office, 11 Redcliffe Square, London S.W. 10, England / IBM 704, 709, and 7090 Computers with 32K memory / DESCR: full line of peripheral data processors. Computing and peripheral equipment available on hourly rate basis. Specialists in the application of modern analytical techniques to government, business, and financial problems. Offer a full range of services in operations research, computing, programming, data processing, sample design, market research, problem formulation, mathematical structuring / — / Hourly rates and zone allowance plan / E0

KCS Limited

A. T. Kearney & Co.

Microtech Research Co.

E1. EDUCATION

Automation Consultants, Inc.

Computer Center, University of Calif.

Friden, Inc. — see D1, D4, and T18

Numerical Analysis Center, Univ. of Colo.

Stanford Computation Center

Stanford Research Institute

Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

Univ. of Rochester, Computing Center

E2. EMBEDDED ASSEMBLIES AND COMPONENTS

Airflyte Electronics Co.

The Daven Company

Di/An Controls, Inc.
Raytheon Company, Industrial Components Div.

Technitrol Engineering Co. — see P10
The Walkirt Co. — see C10

F1. FACSIMILE EQUIPMENT

Alden Products Co.
Ampex Corp., Data Products Co.
Collins Radio Co.
Eastman Kodak Co.
Eugene Garfield Associates
Technitrol Engineering Co. — see P10
F1A. FANS AND BLOWERS
Rotron Manufacturing Co., Inc.

F2. FASTENERS AND FASTENING DEVICES

Alden Products Co.

F3. FIRE CONTROL EQUIPMENT

Arma Div., American Bosch Arma Corp.
Daystrom Incorporated, Military Electronics Div.
Eastman Kodak Co.
FAE Instrument Corp.
Fenwal, Inc.
The W. L. Maxson Corporation
Westinghouse Electric Corp., Air Arm Div.

G1. GENERATORS, FUNCTION

General Computers, Inc.
The Geotechnical Corp.
The A. W. Haydon Co.
Helipot Division of Beckman Instruments, Inc.
George A. Philbrick Researches, Inc.
Statistical Instrument Co.
Valor Instruments, Inc.
Vernistat Div. of the Perkin-Elmer Corp.

G2. GENERATORS, FUNCTION, ELECTRONIC

Bendix Corp., Eclipse-Pioneer Div.
Borg-Warner Controls, Div. of Borg-Warner Corp.
Elgenco, Inc.
Fairchild Controls Corp.
The Geotechnical Corp.
Hewlett-Packard Co.
Navigation Computer Corp.
George A. Philbrick Researches, Inc.
Reeves Instrument Corp.
Rutherford Electronics Co.
Wang Laboratories

G3. GENERATORS, FUNCTION, MECHANICAL

Thomas A. Edison Industries

G4. GEOPHYSICAL APPARATUS

CG Electronics Corp.
The Geotechnical Corp.

H1. HEADS, MAGNETIC

Bryant Computer Products Division
Ferroxcube Corp. of America
The Magnavox Company
Minneapolis-Honeywell Regulator Co., Industrial Systems Div.
Norton Associates, Inc.

POTTER INSTRUMENTS COMPANY, INC., Sunnyside Blvd., Plainview, L.I., N.Y. / high speed printers and tape transports, including reading heads and amplifiers. Transistorized for use as computer input-output devices. Also

systems using these components / Prices: transports and printers, \$3,000 to \$15,000 / H1

H2. HEADS, MAGNETIC, READING

Consolidated Electroynamics Corp.
General Transistor Corp.
The Magnavox Company
Minneapolis-Honeywell Regulator Co., Industrial Systems Div.
Norton Associates, Inc.
Potter Instrument Company, Inc. — see H1

H3. HEADS, MAGNETIC, RECORDING

Alden Products Co.
Consolidated Electroynamics Corp.
Ferroxcube Corp. of America
General Transistor Corp.
The Magnavox Company
Minneapolis-Honeywell Regulator Co., Industrial Systems Div.
Norton Associates, Inc.
Potter Instrument Company, Inc. — see H1
D. M. Steward Manufacturing Co.

I1. INDICATORS (COMPUTER TYPES)

Automation Management Inc.
Bowmar Instrument Corp.
Burroughs Corp., Electronic Tube Division
DIALIGHT CORP., 60 Stewart Ave., Brooklyn 37. N.Y. / Indicator Lights (Dialco) / DESCR: complete line of indicator lights and pilot lights for every application. For the computer-automation fields: ultra-miniature (3/8" mounting) indicator lights, trademarked "Datalites." and made in 2 basic styles: lamp holders with Dialco replaceable lamp cartridges; also integrated "Datalites" with built-in neon lamps that are not replaceable. Also Data-Strip and Data-Matrix for computers, etc. / I1

Electro Instruments, Inc.
Engineered Electronics Co.
Fenwal, Inc.
Gulton Industries, Inc.
Industrial Development Engineering Associates
Minneapolis-Honeywell Regulator Co., Boston Div.

NON-LINEAR SYSTEMS, INC., Del Mar Airport, Del Mar, Calif. / digital readouts / DESCR: displays up to 12 symbols or messages per window. Standard units have up to 6 windows in 3 window sizes. Display is actuated by energizing the one proper lamp out of the 12 lamps per window. No moving parts. Only 1 1/2" deep. Message display plates are easily changed by user / USE: for displaying alphanumeric or other symbolic data available in contact closure or voltage form from computers, analog-to-digital converters, etc. / \$25 to \$150 / I1

John Oster Mfg. Co., Avionic Div.
Raytheon Company, Industrial Components Div.
The Teleregister Corporation
Tucor, Inc.

Union Switch & Signal, Div. of Westinghouse Air Brake Co.

I2. INFORMATION RETRIEVAL DEVICES

Ampex Corp., Data Products Co.
Auerbach Electronics Corp.
Automation Management Inc.
C G Electronics Corp.
Consolidated Electroynamics Corp.
General Electric Co., Computer Dept.
The Geotechnical Corp.
JONKER BUSINESS MACHINES, INC., 404 N. Frederick Ave., Gaithersburg, Md. / Information Retrieval Systems / DESCR: "TERMATREX" systems which search large collections of "items of information" for "items" which can solve a particular problem or answer a particular item / Price: \$200 to \$2000 / I2
The Magnavox Company
National Data Processing Corp.
Tally Register Corp.

I3. INPUT/OUTPUT DEVICES

Addo-x Inc. — see A1.
Addressograph-Multigraph Corp.
Alwac Computer Division
Ampex Corp., Data Products Co.
Automation Management Inc.
Bendix Corp., Bendix-Pacific Div.
Birkbeck College, Dept. of Numerical Automation, University of London
Bowmar Instrument Corp.
Century Electronics & Instruments, Inc.
C G Electronics Corp.
Chadwick-Helmuth Co.
Chrono-log Corp.
Collins Radio Co.
Consolidated Electroynamics Corp.
Datex Corp.
Di/An Controls, Inc.
Electro Instruments, Inc.
Electro Products Laboratories, Inc.
Elgenco, Inc.
FAE Instrument Corp.
Farrington Electronics Inc.
Ferranti-Packard Electric Ltd., Electronics Div.
Friden, Inc. — see D1, D4, and T18
General Electric Co., Computer Dept.
Gulton Industries, Inc.
Hogan Faximile Corp.
Information Systems, Inc.
The Magnavox Company
National Bureau of Standards, Data Processing Systems Div.
The National Cash Register Co.
National Data Processing Corp.
Remington Rand Univac Div. of Sperry Rand Corp.
Smith-Corona Marchant Inc.
The Standard Register Co.
Stromberg-Carlson — San Diego
Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations
Tally Register Corp.
The Teleregister Corporation
TELETYPE CORPORATION, 5555 Touhy Ave., Skokie, Ill. / Teletype communications equipment / DESCR: page printers, tape punches, tape readers. Model 28 Automatic Send-Receive sets with complete print-out and tape facilities. Reperforator-transmitter with

punch and reader components operating at identical or different speeds. High speed paper tape punches and tape readers (5, 6, 7 or 8 level codes). Sequence selector (Stunt Box) operating on communications code, available as integral part of page printers or as separate unit / I3
Wright Engineering Co.

14. INTEGRATORS

Airpax Electronics Incorporated
Automation Management Inc.
C G Electronics Corp.
The Daven Company

15. INTEGRATORS, ELECTRONIC

Airpax Electronics Incorporated
American Electronics, Inc.
Andersen Laboratories, Inc.
Automation Management Inc.
Bendix Corp., Eclipse-Pioneer Div.
C G Electronics Corp.
Data Systems Div., American Electronics, Inc.
Daystrom, Inc., Weston Instruments Div.
Electro Instruments, Inc.
George A. Philbrick Researches, Inc.
Reeves Instrument Corp.

16. INTEGRATORS, MECHANICAL

American Electronics, Inc.
Bendix Corp., Eclipse-Pioneer Div.
Data Systems Div., American Electronics, Inc.

17. INVENTORY SYSTEMS

Auerbach Electronics Corp.
Automation Management Inc.
Benson-Lehner Corp.
C G Electronics Corp.
Ferranti-Packard Electric Ltd., Electronics Div.
HRB-Singer, Inc.
The Magnavox Company
National Data Processing Corp.
Remington Rand Univac Div. of Sperry Rand Corp.
Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations
The Teleregister Corporation

18. INVESTMENT ASSISTANCE

Burr and Company

J1. JACKS

Accurate Electronics Corp.
Alden Products Co.
Cambridge Thermionic Corp.
P. R. Mallory & Co., Inc.
Raytheon Company, Industrial Components Div.

K1. KEYBOARDS

Electro Instruments, Inc.
SOROBAN ENGINEERING, INC., Box 1717, Melbourne, Fla. / Coding Keyboards / DESCR: specialized and custom-made keyboard units for use in automatic control applications / — / \$390 to \$850 / K1

L1. LIGHTS, INDICATOR

Alden Products Co.
Alexandria Div., American Machine & Foundry Co.

DIALIGHT CORP., 60 Stewart Ave., Brooklyn 37, N.Y. / Indicator Lights (Dialco) / DESCR: complete line of indicator lights and pilot lights for every application. For the computer-automation fields: ultra-miniature ($\frac{3}{8}$ " mounting) indicator lights, trade-named "Datalites," and made in 2 basic styles: lamp holders with Dialco replaceable lamp cartridges; also integrated "Datalites" with built-in neon lamps that are not replaceable. Also Data-Strip and Data-Matrix for computers, etc. / L1

Monroe Industries, Inc.
Raytheon Company, Industrial Components Div.
Westgate Laboratory, Inc.

M1. MAGNETS

The Arnold Engineering Co.
Ferroxcube Corp. of America
Indiana Steel Products, Div. of Indiana General Corp.
Stackpole Carbon Co.

M2. MEMORY SYSTEMS

Ampex Corp., Data Products Co.
Auerbach Electronics Corp.
Benson-Lehner Corp.
Bryant Computer Products Division
Computer Control Company, Inc.
Computing Devices of Canada Ltd.
Consolidated Controls Corp.
Convair-Astronautics, A Division of General Dynamics Corp.
Convair Electronics (San Diego), A Division of General Dynamics Corp.
Cook Electric Co.
Daystrom, Inc., Control Systems Div. — see S9
Daystrom Incorporated, Military Electronics Div.
Delco Radio Div., General Motors Corp. — see C24
Di/An Controls, Inc.
Ferroxcube Corp. of America
General Electric Co., Computer Dept.
Gulton Industries, Inc.
The A. W. Haydon Co.
The Magnavox Company
Norton Associates, Inc.
Potter Instrument Company, Inc. — see H1
Rese Engineering Inc.
Technitrol Engineering Co. — see P10
Telemeter Magnetics Inc.
The Teleregister Corporation
Wang Laboratories
Westinghouse Electric Corp., Air Arm Div.

M2A. MOLDED PLASTICS

M3. MULTIPLIERS

Daystrom, Inc., Weston Instruments Div.
Vickers Inc., Electric Products Division (a Div. of Sperry-Rand Corp.)

M4. MULTIPLIERS, DIODE

Reeves Instrument Corp.

M5. MULTIPLIERS, ELECTRONIC

Chadwick-Helmuth Co.
Daystrom, Inc., Weston Instruments Div.
Di/An Controls, Inc.
George A. Philbrick Researches, Inc.
Reeves Instrument Corp.

M6. MULTIPLIERS, FREQUENCY

Electro Instruments, Inc.
Vickers Inc., Electric Products Division (a Div. of Sperry-Rand Corp.)

M7. MULTIPLIERS, SERVO

Thomas A. Edison Industries

O1. OFFICE MACHINES

Addo-x Inc. — see A1.
Automation Management, Inc.
Collins Radio Co.
Friden, Inc. — see D1, D4, and T18
The Magnavox Company
The National Cash Register Co.
National Data Processing Corp.
Remington Rand Div. of Sperry Rand Corp.
Smith-Corona Marchant Inc.
The Standard Register Co.
Tally Register Corp.

O2. OPERATIONS RESEARCH

Armour Research Foundation, Ill. Inst. of Techn.
Auerbach Electronics Corp.
Automation Management Inc.
Broadview Research Corp.
C-E-I-R, INC. (Formerly Corporation for Economic and Industrial Research), 1200 Jefferson Davis Highway, Arlington 2, Va.; N.Y. Office: 110 E. 42nd St., New York, N.Y., New York Research Center, 370 Lexington Ave., New York, N.Y.; Southwest Regional Office, 6422 Fannin St., Houston, Tex.; Los Angeles Office, Sunset Tower West, 8400 Sunset Blvd., Los Angeles, Calif.; London Office, 11 Redcliffe Square, London S.W. 10, England / IBM 704, 709, and 7090 Computers with 32K memory / DESCR: full line of peripheral data processors. Computing and peripheral equipment available on hourly rate basis. Specialists in the application of modern analytical techniques to government, business, and financial problems. Offer a full range of services in operations research, computing, programming, data processing, sample design, market research, problem formulation, mathematical structuring / — / Hourly rates and zone allowance plan / O2

Data Processing, Inc.
H. S. Gellman & Co., Ltd. — see C30
General Electric Co., Computer Dept.
KCS Limited
A. T. Kearney & Co.
Microtech Research Company
Nuclear Development Corporation of America

SWEDISH BOARD FOR COMPUTING MACHINERY, Drottningatan 95A, (P.O. Box 6131), Stockholm 6, Sweden / Computing service / DESCR: mathematics, technology, data processing / O2

Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

TECHNICAL OPERATIONS, INC., Burlington, Mass. / data processing systems / DESCR: automatic programming systems and computer applications / O2

TECHNICAL OPERATIONS INC., 305

Webster St., Monterey, Calif. / Operations Research and Computer Applications Studies / DESCR: military, industrial, commercial operations research; systems analysis, design and equipment specification programming / O2

U. S. Naval Weapons Lab., Dahlgren

P1. PANELS

Cambridge Thermionic Corp.
Control Switch Div., Controls Co. of Amer.

Monroe Industries, Inc.

Panellit—A Division of Information Systems, Inc.

P2. PANELS, JACK

Accurate Electronics Corp.
P. R. Mallory & Co., Inc.

P3. PANELS, RELAY RACK

P4. PAPER TAPE

J. H. Bunnell & Co.

National Data Processing Corp.

Tally Register Corp.

Teletype Corporation—see I3

P5. PATCH CORDS

Alden Products Co.
AMP, Inc.
Engineered Electronics Co.

P6. PLOTTERS

Accurate Electronics Corp.
BENDIX CORP., BENDIX COMPUTER DIVISION, 5630 Arbor Vitae St., Los Angeles 45, Calif. / PA-2 graph plotter / DESCR: plots 20 increments of 0.1 inch/second. For use only with Bendix G-15 general purpose digital computer or Bendix DA-1 digital differential analyzer accessory (see C-24) / USE: plotted digital computer output for scientific user, etc. / \$1800 sale, \$75/mo. lease / P6
Benson-Lehner Corp.
Electro Instruments, Inc.

Hogan Faximile Corp.
Sunshine Scientific Instrument
Tally Register Corp.
Westgate Laboratory, Inc.

P6A. PLUGBOARDS

Accurate Electronics Corp.
AMP, Inc.
The Wright Line, Inc.

P7. POTENTIOMETERS (COMPUTER TYPES)

Ace Electronics Associates, Inc.
Analogue Controls, Inc.
Bourns, Inc.
Dale Products, Inc.
DeJur Amsco Corp.
Electro-Mec Laboratory, Inc.
Fairchild Controls Corp.
The Gamewell Co.
General Controls Co.
Helipot Div. of Beckman Instruments, Inc.

[Continued on next page]

Roster of Organizations

[Continued from page 49]

Research and manufacturing in electronic instrumentation; recording potentiometers (strip chart type), null-balance, strip charts / RMSa Ms(50) Me(1948) SIc

Wharf Engineering Lab., Fenny Compton, Warwickshire, England / 230 / *C 59

Magnetic drums, magnetic heads, tape readers, tape punches / RMSCa Ss(10) Se(1948) Ic

Wheeler Electronic Corp., Subsidiary of Sperry-Rand Corp., 150 E. Aurora St., Waterbury 20, Conn. / PLaza 4-5191 / *C 59

Transformers, communication systems (computer types), regulated power supplies, cable assemblies / RMSa Ls(500+) Le(1909) Ic

Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N.J. / CApitol 2-6880 / *C 60

Miniature and special relays for computing equipment; plug-in, micro-miniature, sensitive, high speed, etc. / MSa Ms(200) Le(1925) Ic

Whitewater Electronics, Inc., Electrometric Div., 136 W. Main St., Whitewater, Wisc. / WHitewater 986 / *C 59

Computer components; delay lines / RMSa Ms(85) Se(1955) Ic

The Whitton Manufacturing Company, Route 6 and New Britain Ave., Farmington, Conn. / ORchard 7-2607 / *C 59

Magnetic storage drums and disks, with speeds from 60 rpm to 30,000 rpm and higher, eccentricities under fifty millionths (.00005") T.I.R. Specialists in the design and manufacture of precision rotary machinery including computer drums, optical scanners, glass fiber spinners, and high performance precision spindles for boring, milling, grinding and drilling / RMSa Ms(50) Me(1954) Ic

Wiancko Engineering Co., 255 North Halstead Ave., Pasadena, Calif. / EI 5-7186 / *C 60

Data acquisition systems; dynamic measuring instrumentation; pressure, acceleration, etc., pickups / RMSCa Ms(262) Me(1946) Ic

Wiltec Electronics, Inc.—has merged with Tucor, Inc., which see

Winchester Electronics, Inc., 19 Willard Rd., Norwalk, Conn. / VICTor 7-7231 / *C 60

Electronic connectors, terminals, hoods, tube sockets, printed circuit connectors RMSa Ls(600) Me(1941) Ic

Woods, Gordon & Co., 15 Wellington St. West, Toronto, Ontario, Canada (also at Montreal and Vancouver) / EM 8-2751 / *C 60

Management consulting and system design / CPa Ss(46) Le(1930) Ic

Wright Aeronautical, Wood Ridge, N.J.—no response '59, '60

Wright Engineering Co., 180 E. California Blvd., Pasadena, Calif. / MUrray 1-8488 / *C 60

Computer input/output devices; switches, shaft encoders; magnetic digital components and systems; buffers and storage systems; data display oscilloscopes, analog components; enclosures and consoles / Sa Ss(10) Se(1950) DAic

The Wright Line, Inc., 160 Gold Star Blvd., Worcester 6, Mass. / PL 7-4568 / *C 60

Data processing accessory equipment / RMSCa Ms(350) Me(1934) Ic

Y

The Yale & Towne Manufacturing Co., Powdered Metal Products Div., 9335 W. Belmont Ave., Franklin Park, Ill.—moved, address not known.

Z

Zator Co., 79 Milk St., Boston 9, Mass.—moved, address not known

Zuse Kommandit-Gesellschaft, 4, Wehneberger St., Bad Hersfeld, Hessen, Germany / — / *C 60

Electronic and relay digital computers, automatic curve plotters, automatic machine activity recorder, data processing equipment / RMSCa Ms(270) Me(1949) Dc

Ketay Dept., Norden, div. of United Aircraft
P. R. Mallory & Co., Inc.
Markite Corporation
Maurey Instrument Corporation
Minneapolis-Honeywell Regulator Co., Industrial Div.
Spectrol Electronics Corporation
Technology Instrument Corp.
Vernistat Div. of the Perkin-Elmer Corp.
Westronics, Inc.

P8. POWER SUPPLIES — REGULATED

Airpax Electronics Incorporated
American Research and Mfg. Corp.
Burlingame Associates, Ltd.
Consolidated Electroynamics Corp.
The Daven Company
Delco Radio Div., General Motors Corp. — see C24

Electronic Contractors, Inc.
Gulton Industries, Inc.

HARVEY-WELLS ELECTRONICS, INC., Research and Development Div., E. Natick Industrial Park, Natick, Mass. / building blocks / DESCR: 5-megacycle Data Bloc and Data Pac, high speed digital logic building blocks, an entirely new concept in computer control systems. Logic units, decade scalars, shift registers, counters and power supplies are included in the Harvey-Wells line of digital building blocks / USE: in data handling, data conversion, process control and automation, missile tracking systems and radar simulation. The Data Bloc units are primarily intended for planning and prototype work. Data Pacs are used for subsequent production runs / — / P8

Hewlett-Packard Co.
Walter Kidde & Co., Inc.
P. R. Mallory & Co., Inc.
The W. L. Maxson Corporation
Moran Instrument Corp.

NJE CORPORATION, Kenilworth, N.J. / electronic power supplies / DESCR: low voltage, high current, high voltage, low current. Regulated and unregulated. Utilizing vacuum tube, thyatron rectifiers, transistors, and magnetic amplifier circuitry / USE: to convert AC to DC current / \$250 to \$6000 per unit / P8

Owen Laboratories, Inc.
George A. Philbrick Researches, Inc.
Spectrol Electronics Corporation
Valor Instruments, Inc.

P9. PRINTERS

Addressograph-Multigraph Corp.
Auerbach Electronics Corp.
Epsco, Inc.
Friden, Inc. — see D1, D4, and T18
Harrison Laboratories, Inc.

POTTER INSTRUMENT COMPANY, INC., Sunnyside Blvd., Plainview, L.I., N.Y. / high speed printers and tape transports, including reading heads and amplifiers. Transistorized for use as computer input-output devices. Also systems using these components / Prices: transports and printers, \$3,000 to \$15,000 / P9
Radiation, Inc.

The Teleregister Corporation
Teletype Corporation — see I3

P10. PRINTERS, HIGH SPEED

Addressograph-Multigraph Corp.
FAE Instrument Corp.
General Electric Co., Computer Dept.
Hogan Faximile Corp.
Potter Instrument Company, Inc. — see P9

Rank Precision Industries, Ltd., Electronics Dept.
Remington Rand Univac Div. of Sperry Rand Corp.

Smith-Corona Marchant Inc.
Stromberg-Carlson — San Diego
TECHNITROL ENGINEERING COMPANY, 1952 E. Allegheny Ave., Philadelphia 34, Pa. / high speed print station / DESCR: high speed print station, analex synchroprinter output. 1000 lines per minute of any 64 character 6 bit code. On-line or off-line operation. Accepts magnetic tape input, performs parity check up to 1024 character storage / USE: on-line and off-line printing of output of high speed digital computers such as IBM 600 and 700 series computers, including the 7070 and 7090 / \$80,000 and up / P10

P11. PRINTERS, KEYBOARD

Remington Rand Univac Div. of Sperry Rand Corp.
Smith-Corona Marchant Inc.
Teletype Corporation — see I3

P12. PRINTERS, LINE-A-TIME

Addressograph-Multigraph Corp.
General Electric Co., Computer Dept.
Hewlett-Packard Co.

POTTER INSTRUMENT COMPANY, INC., Sunnyside Blvd., Plainview, L.I., N.Y. / high speed printers and tape transports, including reading heads and amplifiers. Transistorized for use as computer input-output devices. Also systems using these components / Prices: transports and printers, \$3,000 to \$15,000 / P12

Remington Rand Univac Div. of Sperry Rand Corp.
Technitrol Engineering Co. — see P10

P12A. PROGRAMMING SERVICES

Armour Research Foundation, Ill. Inst. of Techn.
Auerbach Electronics Corp.
Broadview Research Corp.

C-E-I-R, INC. (Formerly Corporation for Economic and Industrial Research), 1200 Jefferson Davis Highway, Arlington 2, Va.; N.Y. Office: 110 E. 42nd St., New York, N.Y., New York Regional Center, 370 Lexington Ave., New York, N.Y.; Southwest Regional Office, 6422 Fannin St., Houston, Tex.; Los Angeles Office, Sunset Tower West, 8400 Sunset Blvd., Los Angeles, Calif.; London Office, 11 Redcliffe Square, London S.W. 10, England / IBM 704, 709, and 7090 Computers with 32K memory / DESCR: full line of peripheral data processors. Computing and peripheral equipment available on hourly rate basis. Specialists in the

If you use as few as 4 desk calculators for one job, Clary's new electronic computer can save you thousands of dollars every year!

And if you use more than 4 calculators, the Clary DE-60's speed and versatility can save you even more. It possesses the mathematical logic of giant computers, yet does not require technical personnel to program or operate. To find out more about it, mail in this coupon now.

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San Gabriel, Calif.

Please send me complete information on your new electronic computer, the DE-60.

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Company _____ Position _____
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*In Canada: Computing Devices of Canada, Ltd., Ottawa, Ontario

application of modern analytical techniques to government, business, and financial problems. Offer a full range of services in operations research, computing, programming, data processing, sample design, market research, problem formulation, mathematical structuring / — / Hourly rates and zone allowance plan / P12A

Computing Devices of Canada Ltd.

Cook Electric Co.

Data Processing, Inc.

Daystrom, Inc., Control Systems Div. — see S9

General Electric Co., Computer Dept.

GENERAL KINETICS, INC., 2611 Shirlington Rd., Arlington 6, Va. / Complete services in the fields of digital computer programming and programming research / DESCR: 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 / — / estimates made on request / P12A

Microtech Research Company

Nuclear Development Corporation of America

Radiation, Inc.

Remington Rand Univac Div. of Sperry Rand Corp.

Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

Tally Register Corp.

Technical Advisors, Inc. — see C28

TECHNICAL OPERATIONS, INC., Burlington, Mass. / data processing systems / DESCR: automatic programming systems and computer applications / P12A

Technical Operations Inc., Monterey, Calif. — see O2

U. S. Air Force, Structures Branch

P13. PUBLICATIONS

Auerbach Electronics Corp.

Data Processing Digest

Gille Associates, Inc.

The Institute of Management Sciences
Instrument Society of America

Reinhold Book Div., Reinhold Publishing Corp.

Technical Information Co. (England)

P15. PUBLICATIONS, MAGAZINES

Automatic Control, Reinhold Publishing Corp.

Canning, Sisson & Assoc., Inc.

COMPUTERS AND AUTOMATION, 815 Washington St., Newtonville 60, Mass. / Computers and Automation / DESCR: Monthly magazine, articles, reference information (20 kinds), papers, forum, news, etc., dealing with automatic computing machinery and its applications and implications / USE: for keeping up to date with the computer field; finding out reference information quickly / U.S. \$7.50 a year; foreign, \$8.50 a year / P15

Gille Associates, Inc.

P16. PUNCH CARD MACHINES

Addressograph-Multigraph Corp.

Dennison Mfg. Co., Machine Systems Div.

Elliott Addressing Machine Co.

Information Systems, Inc.

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., 112 East Post Rd., White Plains, N.Y. / A complete line of punched card machines including the new low-cost Series 50 equipment / DESCR: card punches, sorters, accounting machines, interpreters, collators, verifiers, proof machines, the Ticket Converter, the Cardtype Accounting Machine, etc. / Details available on request / P16

Logabax S. A.

Remington Rand Univac Div. of Sperry Rand Corp.

Teletype Corporation — see I3

U. S. Air Force, Systems Dynamic Analysis Div., Wright Patterson AFB

Univ. of Michigan, Willow Run Labs.

R1. READERS

Baird-Atomic, Inc.

Benson-Lehner Corp.

Friden, Inc. — see D1, D4, and T18

General Electric Co., Computer Dept.

International Rectifier Corp.

Miles Reproducer Co., Inc.

National Data Processing Corp.

POTTER INSTRUMENT COMPANY, INC., Sunnyside Blvd., Plainview, L.I., N.Y. / high speed printers and tape transports, including reading heads and amplifiers. Transistorized for use as computer input-output devices. Also systems using these components / Prices: transports and printers, \$3,000 to \$15,000 / R1

Sanborn Co.

The Standard Register Co.

Stromberg-Carlson — San Diego

Teletype Corporation — see I3

R2. READERS, CHARACTER

Farrington Electronics Inc.

General Electric Co., Computer Dept.

National Data Processing Corp.

R3. READERS, MAGNETIC CARD

General Electric Co., Computer Dept.

The Magnavox Company

I files Reproducer Co., Inc.

R4. READERS, MAGNETIC TAPE

Ampex Corp., Data Products Co.

Consolidated Electrodynamics Corp.

General Electric Co., Computer Dept.

Miles Reproducer Co., Inc.

Minneapolis-Honeywell Regulator Co.,
Industrial Systems Div

National Data Processing Corp.

Potter Instrument Company, Inc. — see R1

Smith-Corona Marchant Inc.

R5. READERS, MECHANICAL

American Electronics, Inc.

Data Systems Div., American Electronics, Inc.

Farrington Electronics Inc.

Miles Reproducer Co., Inc.

National Data Processing Corp.

Smith-Corona Marchant Inc.

Tally Register Corp.

R6. READERS, PAPER TAPE

Addo-x Inc. — see A1

American Electronics, Inc.

J. H. Bunnell & Co.

California Technical Industries

Data Systems Div., American Electronics Inc.

Ferranti-Packard Electric Ltd., Electronics Div.

Friden, Inc. — see D1, D4, and T18

General Electric Co., Computer Dept.

Information Systems, Inc.

Miles Reproducer Co., Inc.

National Data Processing Corp.

Potter Instrument Company, Inc. — see R1

SOROBAN ENGINEERING, INC., Box 1717, Melbourne, Fla. / Paper Tape Readers / DESCR: single and dual mechanical sensing paper tape reading devices capable of eight level reading up to speeds of 60 characters per second / Anemometer Reading Head capable of 8 level readings up to speeds of 1000 characters per second / — / \$450 to \$1150 / R6

Tally Register Corp.

R7. READERS, PHOTOELECTRIC

BENDIX CORP., BENDIX COMPUTER DIVISION, 5630 Arbor Vitae St., Los Angeles 45, Calif. / photoelectric paper tape reader / DESCR: 250 char/sec. avg. speed. Uses novel magazine loading principle which provides convenient storage of tapes and rapid loading. Tape can be searched in either direction under program control and input can be accepted during computation. Supplied only as standard equipment on Bendix G-15, together with 20 char/sec. punch and electric typewriter / USE: data and program in-put / not available as separate item / R7

Daystrom, Inc., Weston Instruments Div.
Digitronics Corp.

General Electric Co., Computer Dept.

The Geotechnical Corp.

Hoffman Electronics Corp., Semiconductor Div.

Information Systems, Inc.

International Rectifier Corp.

The Magnavox Company

National Data Processing Corp.

Potter Instrument Company, Inc. — see R1

Smith-Corona Marchant Inc.

R8. READERS, PUNCH CARD

Addressograph-Multigraph Corp.

California Technical Industries

Friden, Inc. — see D1, D4, and T18

General Electric Co., Computer Dept.

Information Systems, Inc.

National Data Processing Corp.

Taurus Corp.

Univ. of Michigan, Willow Run Labs.

R9. RECORDING PAPERS

Alden Products Co.

Century Electronics & Instruments, Inc.

Eastman Kodak Co.

Hogan Faximile Corp.

Minneapolis-Honeywell Regulator Co.,
Industrial Div.

Sanborn Co.

R10. RECTIFIERS

William Brand-Rex Div., American Enka Corp.
 Daystrom, Inc., Weston Instruments Div.
 Delco Radio Div., General Motors Corp. — see C24
 Fansteel Metallurgical Corp.
 International Rectifier Corp.
 P. R. Mallory & Co., Inc.
 Motorola, Inc., Semiconductor Prod. Div.
 Raytheon Company, Semiconductor Div.
 Transitron Electronic Corp.
 Westinghouse Electric Corp., Semiconductor Dept.

R11. REGISTERS, SHIFT

AMP, Inc.
 Di/An Controls, Inc.
 Epsco, Inc.
 ESC Corporation — see D3

R12. RELAYS (COMPUTER TYPES)

Allied Control Co., Inc.
 Assembly Products, Inc.
AUTOMATIC ELECTRIC COMPANY,
 Northlake, Ill. / Class W wire-spring, multiple transfer relay / DESCR: New, space saving relay which provides up to 51 simultaneous circuit transfers. Unique actuating "card" operates all moving wire-spring contacts at once, assuring synchronous break-before-make operation not attainable when several "general purpose" relays are used in combination. Solderless wrap terminals, moderate power requirements, factory adjusted and rated for 50 million operations without readjustment / USE: Digital and analog computer systems, data processing and telemetering systems, automatic controls / — / R12

Babcock Radio Engineering Inc.
 C. P. Clare & Co.
 Comar Electric Co.
 Thomas A. Edison Industries
 General Controls Co.
 Guardian Electric Mfg. Co.
 Hillburn Electronic Products Co.
 Walter Kidde & Co., Inc.
 P. R. Mallory & Co., Inc.
 Phaotron Instrument and Electronic Co.
 Phillips Control Corp.
 Potter & Brumfield, Div. of Amer. Machine & Foundry Co.
 Tally Register Corp.
 Union Switch & Signal, Div. of Westinghouse Air Brake Co.
 Wheelock Signals, Inc.

R13. RESISTORS

Allies' Products Corp.
 Arnhold Ceramics Inc.
 Centralab
 Corning Glass Works, Electronic Components Dept.
 Dale Products, Inc.
 The Daven Company
 Daystrom, Inc., Weston Instruments Div.
 Electro Instruments, Inc.
 Ferroxcube Corp. of America
 General Transistor Corp.
 P. R. Mallory & Co., Inc.
 Maurey Instrument Corporation
 Reon Resistor Corp.
 Resistance Products Co.
 Sage Electronics Corp.

Spectrol Electronics Corporation
 Sprague Electric Co.
 Stackpole Carbon Co.
 Technology Instrument Corp.

R14. RESOLVERS

American Electronics, Inc.
 Analogue Controls, Inc.
 Bendix Corp., Eclipse-Pioneer Div.
 Daystrom, Inc., Weston Instruments Div.
 Ketaf Dept., Norden, div. of United Aircraft
 Norden Division of United Aircraft Corp.
 John Oster Mfg. Co., Avionic Div.

R15. RESOLVERS, COORDINATE TRANSFORM

Analogue Controls, Inc.

R16. RESOLVERS, PRODUCT

Analogue Controls, Inc.
 Daystrom, Inc., Weston Instruments Div.

R17. RESOLVERS, SINE-COSINE

Analogue Controls, Inc.
 Reeves Instrument Corp.

R18. ROBOTS

BERKELEY ENTERPRISES, INC., 815 Washington St., Newtonville 60, Mass. / Small Robots / DESCR: small robots such as Simon, a miniature mechanical brain; Squee, an electronic robot squirrel; Relay Moe, Tit-Tat-Toe game-playing machine; Nim machine; Brainiac, Geniac, Tyniac, electric brain construction kits, etc. / USE: in shows, lecturing, teaching, exhibits, displays,

explaining / \$10 to \$4000, or rental / R18

Consolidated Controls Corp.

S1. SCANNERS

Alden Products Co.
 Bailey Meter Co.
 Datex Corp.
 Daystrom, Inc., Control Systems Div. — see S9
 Electro Instruments, Inc.
 Farrington Electronics Inc.
 Information Systems, Inc.
 Leeds & Northrup Co.
 National Data Processing Corp.

S2. SEMICONDUCTORS

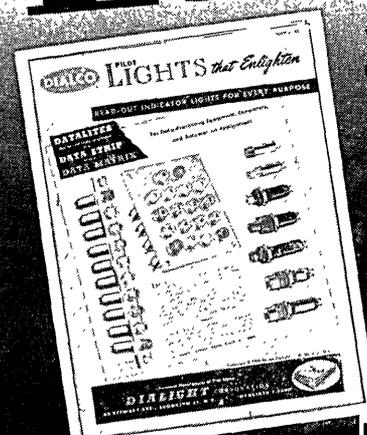
CBS Electronics
 Clevite Transistor Products
 Delco Radio Div., General Motors Corp. — see C24
 General Transistor Corp.
 Hoffman Electronics Corp., Semiconductor Div.
 Hughes Semiconductor Div.
 International Rectifier Corp.
 Radio Corp. of America, Semiconductor & Materials Div.
 Raytheon Company, Semiconductor Div.
 Transitron Electronic Corp.
 Vickers Inc., Electric Products Division (a Div. of Sperry-Rand Corp.)
 Westinghouse Electric Corp., Semiconductor Dept.

S3. SIMULATORS

Aircraft Armaments, Inc.

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 60 Stewart Ave., Brooklyn 37, N.Y.
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Name _____
 Position _____ Dept. _____
 Company _____
 Address _____
 City _____ Zone _____ State _____

Amperex Electronic Corp.
 Andersen Laboratories, Inc.
BENDIX CORP., BENDIX COMPUTER DIVISION, 5630 Arbor Vitae St., Los Angeles 45, Calif. / 3 axis flight system simulator / DESCR: a large high precision analog computer combined with a massive servo-operated 3-axis table / USE: simulation of aircraft and missile guidance and control systems, radar, etc. / price depends on requirements / S3
 The Bendix Corp. — Research Laboratory Division
 Computing Devices of Canada Ltd.
 Convair—A Division of General Dynamics Corp.
 Dian Laboratories, Inc.
 ITT Federal Div., International Telephone and Telegraph Corp.
 Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations

S4. STORAGE SYSTEMS
 Ampex Corp., Data Products Co.
 Auerbach Electronics Corp.
 Benson-Lehner Corp.
 Computing Devices of Canada Ltd.
 Consolidated Controls Corp.
 Delco Radio Div., General Motors Corp. — see C24
 Di/An Controls, Inc.
 Epsco, Inc.
 General Electric Co., Computer Dept.
 Potter Instrument Company, Inc. — see R1
 Radio Corp. of America, Semiconductor & Materials Div.
 Raytheon Company, Industrial Components Div.
 Wright Engineering Co.

S5. STORAGE SYSTEMS, MAGNETIC
 Ampex Corp., Data Products Co.
 Consolidated Controls Corp.
 Consolidated Electroynamics Corp.
 Delco Radio Div., General Motors Corp. — see C24
 Di/An Controls, Inc.
 General Electric Co., Computer Dept.
 The Magnavox Company
 Potter Instrument Company, Inc. — see R1
 Radio Corp. of America, Semiconductor & Materials Div.
 Smith-Corona Marchant, Inc.
 Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations
 Telemeter Magnetics Inc.

S6. SWITCHES
 Airflyte Electronics Co.
 Airpax Electronics Incorporated
 Allied Control Co., Inc.
 Centralab
 C. P. Clare & Co.
 Comar Electric Co.
 Computer Control Company, Inc.
CONSOLIDATED CONTROLS CORP., Bethel, Conn. / proximity switch / DESCR: proximity switch which is triggered by small magnet and may therefore be used in ferrous environments. Repeatability better than 0.001" / USE: limit switch on transfer machines, machine tools, etc. / \$108 to \$162 / S6

Control Switch Div., Controls Co. of Amer.
 Corning Glass Works, Electronic Components Dept.
 The Daven Company
 Electro-Miniatures Corp.
 General Controls Co.
 Guardian Electric Mfg. Co.
 The A. W. Haydon Co.
 Industrial Products-Danbury Knudsen Div., Amphenol-Borg Electronics Corp.
 Instrument Development Laboratories, Inc.
 Kellogg Switchboard & Supply Co.
 P. R. Mallory & Co., Inc.
 Spectrol Electronics Corporation
 Stackpole Carbon Co.
 Tally Register Corp.
 Technology Instrument Corp.
 Wright Engineering Co.

S7. SWITCHES, STEPPING
 Airflyte Electronics Co.
AUTOMATIC ELECTRIC COMPANY, Northlake, Ill. / rotary stepping switches / DESCR: Type 44-small-10, 22 or 33-point selection—up to six 10-point bank levels; Type 45—two to twelve 25-point bank levels—capacities—25 points, 12 levels—50 points, 8 levels. Available with solderless terminals, hermetic sealing, and other special features / — / S7
 The Daven Company
 Guardian Electric Mfg. Co.
 The A. W. Haydon Co.
 Tally Register Corp.

S8. SYNCHROS
 American Electronics, Inc.
 Bendix Corp., Eclipse-Pioneer Div.
 Data Systems Div., American Electronics, Inc.
 FAE Instrument Corp.
 Ketay Dept., Norden, div. of United Aircraft
 Minneapolis-Honeywell Regulator Co., Boston Div.
 Norden Division of United Aircraft Corp.
 John Oster Mfg. Co., Avionic Div.
 Reeves Instrument Corp.

S9. SYSTEMS ENGINEERING
 Aircraft Armaments, Inc.
 Airpax Electronics Incorporated
 Alexandria Div., American Machine & Foundry Co.
 Auerbach Electronics Corp.
 Automation Management Inc.
 Beckman Systems Div.
 Broadview Research Corp.
 Collins Radio Co.
 Consolidated Electroynamics Corp.
 Cook Electric Co.

DAYSTROM, INC., CONTROL SYSTEMS DIV., 4455 Miramar Rd., La Jolla, Calif. / Solid-state digital computer systems / DESCR: complete responsibility for control systems or data reduction in process industries, including engineering studies, research and development, manufacturing, training, installation and service / USE: process control / \$10,000 to \$1,000,000 / S9
 Daystrom Incorporated, Military Electronics Div.
 Daystrom, Inc., Weston Instruments Div.
 Di/An Controls, Inc.
 Electro-Mechanical Research, Inc.

Electro-Mechanical Research, Inc., AS-COP Div.
 General Electric Co., Computer Dept.
 The Geotechnical Corp.
 Harvey-Wells Electronics, Inc. — see C31
 Information Systems, Inc.
 Librascope Division, General Precision, Inc.
 Edwin A. Lipps Engineering
 Microtech Research Company
 Minneapolis-Honeywell Regulator Co., Industrial Div.
 Minneapolis-Honeywell Regulator Co., Industrial Systems Div.
 Monitor Systems, Inc.
 The Moore School of Electrical Engineering, Univ. of Pa.
 Nuclear Development Corporation of America
 The Ralph M. Parsons Co., Electronics Div.
 Potter Instrument Company, Inc. — see R1
 Stromberg-Carlson — San Diego
 Sylvania Electronic Systems, A Div. of Sylvania Electric Products Inc., Data Systems Operations
 System Development Corporation
 Technitrol Engineering Co. — see P10
 The Teleregister Corporation
 Westinghouse Electric Corp., Advanced System Engineering and Analytical Dept.
 Wiancko Engineering Co.

T1. TACHOMETERS
 Airpax Electronics Incorporated
 Alexandria Division, American Machine & Foundry Co.
 Electro Products Laboratories, Inc.
 The A. W. Haydon Co.
 Hewlett-Packard Co.
 Ketay Dept., Norden div of United Aircraft
 Norden Division of United Aircraft Corp.
 John Oster Mfg. Co., Avionic Div.

T2. TAPE HANDLERS
 J. H. Bunnell & Co.
BURROUGHS CORPORATION, COMPONENT SALES, 460 Sierra Madre Villa, Pasadena, Calif. / digital magnetic tape transport units / DESCR: 1/2" or 3/4" tape on 10 1/2" reels, 3 or 6 milli-second start-stop, fast rewind, single speeds up to 75 inches per second, multiple speeds / USE: digital computer systems, data processing and telemetering systems, automatic controls / around \$8,000 / T2
 Consolidated Electroynamics Corp.
 General Electric Co., Computer Dept.
 General Mills, Mechanical Div.
 The Magnavox Company
 Monarch Metal Products, Inc.
POTTER INSTRUMENT COMPANY, INC., Sunnyside Blvd., Plainview, L.I., N.Y. / high speed printers and tape transports, including reading heads and amplifiers. Transistorized for use as computer input-output devices. Also systems using these components / Prices: transports and printers, \$3,000 to \$15,000 / T2
 Sangamo Electric Co.

T3. TAPE, MAGNETIC
 Ampex Corp., Data Products Co.

Ampex Magnetic Tape Products, a Div. of Ampex Corp.
 Minneapolis-Honeywell Regulator Co., Industrial Systems Div.
 Minnesota Mining and Mfg. Co.
 Reeves Soundcraft Corp.
 The Thompson-Ramo-Wooldridge Products Co.

T3A. TAPE, MAGNETIC FILING SYSTEMS

Consolidated Electrodynamics Corp.
 The Magnavox Company
 Monarch Metal Products, Inc.
 The Wright Line, Inc.

T4. TAPE, MAGNETIC READERS

Ampex Corp., Data Products Co.
 J. H. Bunnell & Co.
 Consolidated Electrodynamics Corp.
 Hermes Electronics Co.
 Edwin A. Lipps Engineering
 The Magnavox Company
 Potter Instrument Company, Inc. — see T2

T5. TAPE, MAGNETIC RECORDERS

Ampex Corp., Data Products Co.
AUTONETICS, a Div. of North American Aviation, Inc., 9150 E. Imperial Hwy., Downey, Calif. / magnetic tape recorders / T5

BENDIX CORP., BENDIX COMPUTER DIVISION, 5630 Arbor Vitae St., Los Angeles 45, Calif. / MTA-2 tape storage unit / DESCR: accessory to Bendix G-15 general purpose digital computer. Up to four units may be used. Each stores 300,000 words. May be searched for blocks or file sections. See also C24 / USE: auxiliary storage of data and programs / \$6800, sale, \$270 mo., lease / T5

Gulton Industries, Inc.
 Edwin A. Lipps Engineering
 The Magnavox Company
 Miles Reproducer Co., Inc.
 The National Cash Register Co.
 Potter Instrument Company, Inc. — see T2

Sangamo Electric Co.
 Smith-Corona Marchant Inc.

T5A. TAPE, MAGNETIC, REELS

T6. TAPE, PAPER

Friden, Inc. — see D1, D4, and T18
 National Data Processing Corp.
 Tally Register Corp.

T7. TAPE, PAPER FILING SYSTEMS

The Wright Line, Inc.

T8. TAPE, PAPER PUNCHES

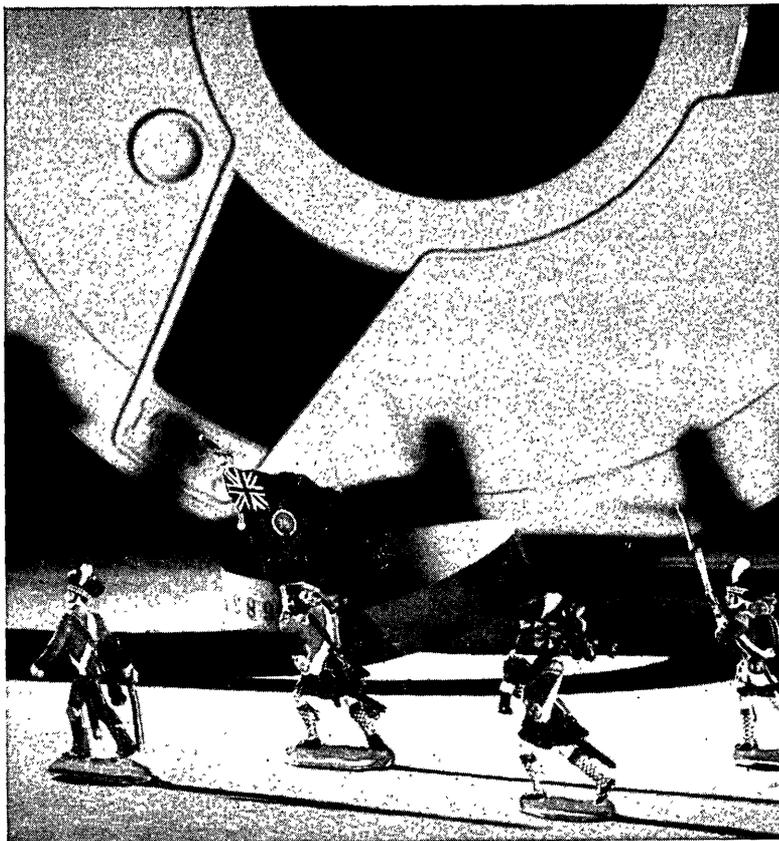
Addo-x Inc. — see A1
 American Electronics, Inc.
 California Technical Industries
 Data Systems Div., American Electronics, Inc.

Fisher & Porter Co.
 Friden, Inc. — see D1, D4, and T18
 The National Cash Register Co.
 National Data Processing Corp.
 Tally Register Corp.

T9. TAPE, PAPER READERS

Addo-x Inc. — see A1

BENDIX CORP., BENDIX COMPUTER DIVISION, 5630 Arbor Vitae St., Los Angeles 45, Calif. / PR-2 multi-code



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 PLAYERS**

Very large-scale air-battle digital computer simulations are now going on at the Washington Research Office of *tech/ops*. Present operations call for *top-flight mathematicians, mathematical statisticians, senior programmers, operations research analysts*.

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3520 PROSPECT STREET, NORTHWEST • WASHINGTON 7, D. C.

paper tape reader / DESCR: Reads any numeric code punched in 5, 6, 7, or 8 channel tape at 400 characters per second. Accepts tape from cash registers, adding machines, accounting machines, A-D converters, etc. Matrix easily rewired or replaced to change external code to be read. Stops on one character. Special reel-less winding and unwinding devices included / USE: G-15 computer input from and data source that punches numeric tape / sale, \$5,900, lease \$175 per month / T9

J. H. Bunnell & Co.
Data Systems Div., American Electronics, Inc.
Daystrom Incorporated, Military Electronics Div.
Digitronics Corp.
Ferranti Electric, Inc.
Friden, Inc. — see D1, D4, and T18
Information Systems, Inc.
National Data Processing Corp.
Potter Instrument Company, Inc. — see T2
Shand and Jurs Co.
Tally Register Corp.

T10. TELEMETERING SYSTEMS

Aircraft Armaments, Inc.
Airpax Electronics Incorporated
Arma Div., American Bosch Arma Corp.
Beckman Systems Div.
Bendix Corp., Bendix-Pacific Div.
C G Electronics Corp.
Consolidated Electrodynamics Corp.
Daystrom Incorporated, Military Electronics Div.
Computing Devices of Canada Ltd.
Electro-Mechanical Research, Inc.
Electro-Mechanical Research, Inc., AS-COP Div.
Fisher & Porter Co.
Epsco, Inc.
The Geotechnical Corp.
Gulton Industries, Inc.
The A. W. Haydon Co.
Hoover Electronics Co.
The W. L. Maxson Corporation
The Ralph M. Parsons Co., Electronics Div.
Shand and Jurs Co.
Southwestern Industrial Electronics Co.
Sperry Gyroscope Co., Div. of Sperry Rand Corp.
Union Switch & Signal, Div. of Westinghouse Air Brake Co.
Wiancko Engineering Co.

T11. TERMINALS

Accurate Electronics Corp.
Alden Products Co.
AMP, Inc.
Cambridge Thermionic Corp.
Taurus Corp.

T11A. TRANSDUCERS

Bendix Corp., Bendix-Pacific Div.
Borg-Warner Controls, Div. of Borg-Warner Corp.
Century Electronics & Instruments, Inc.
Consolidated Controls Corp.
Consolidated Electrodynamics Corp.
Daystrom, Inc., Weston Instruments Div.
Electro-Mechanical Research, Inc.
Electro Products Laboratories, Inc.
Fairchild Controls Corp.

Genisco, Inc.
Gulton Industries, Inc.
Leeds & Northrup Co.
Microtech Research Company
Norden Division of United Aircraft Corp.
Sanborn Co.
Sprague Electric Co.
Technology Instrument Corp.
Wiancko Engineering Co.

T12. TRANSFORMERS

Airpax Electronics Incorporated
AMP, Inc.
Celco
Daystrom, Inc., Weston Instruments Div.
Electronic Transformer Co., Inc.
ESC Corporation — see D3
Ferroxcube Corp. of America
General Controls Co.
Jefferson Electric Co.
Vernistat Div. of the Perkin-Elmer Corp.

T13. TRANSFORMERS, PULSE

Airpax Electronics Incorporated
Electronic Transformer Co., Inc.
El-Rad Manufacturing Company
ESC Corporation — see D3
Ferroxcube Corp. of America
D. M. Steward Manufacturing Co.
Technitrol Engineering Co. — see P10
Valor Instruments, Inc.

T14. TRANSISTORS

Amperex Electronic Corp.
Baird-Atomic, Inc.
CBS Electronics
Delco Radio Div., General Motors Corp. — see C24
Industro Transistor Corp.
National Bureau of Standards, Data Processing Systems Div.
PHILCO CORP., LANSDALE DIV., Church Rd., Lansdale, Pa. / transistors / DESCR: germanium and silicon transistors; Micro Alloy (MAT®), Micro Alloy Diffused Base (MADT®), Silicon Alloy (SAT®), Surface Alloy Diffused Base (SADT®), Surface Barrier (SBT*) (*Philco trademark) / USE: switching, IF, RF, audio and general purpose / \$0.95 to \$29.85 (1 to 99 quantities); prices drop with quantity; \$0.65 to \$19.90 (1000 and up range) / T14

Radio Corp. of America, Semiconductor & Materials Div.
Raytheon Company, Semiconductor Div.
Sprague Electric Co.
Transitron Electronic Corp.
Westinghouse Electric Corp., Semiconductor Dept.

T15. TRANSISTORS, GERMANIUM

Calvert Electronics, Inc.
Delco Radio Div., General Motors Corp. — see C24
General Transistor Corp.
Motorola, Inc., Semiconductor Prod. Div.
Philco Corp., Lansdale Div. — see T14
Radio Corp. of America, Semiconductor & Materials Div.
Sprague Electric Co.
Transitron Electronic Corp.
Westinghouse Electric Corp., Semiconductor Dept.

T16. TRANSISTORS, SILICON

Calvert Electronics, Inc.

Delco Radio Div., General Motors Corp. — see C24
General Transistor Corp.
Hoffman Electronics Corp., Semiconductor Div.
Philco Corp., Lansdale Div. — see T14
Radio Corp. of America, Semiconductor & Materials Div.
Sprague Electric Co.
Transitron Electronic Corp.
Westinghouse Electric Corp., Semiconductor Dept.

T17. TRANSLATING EQUIPMENT

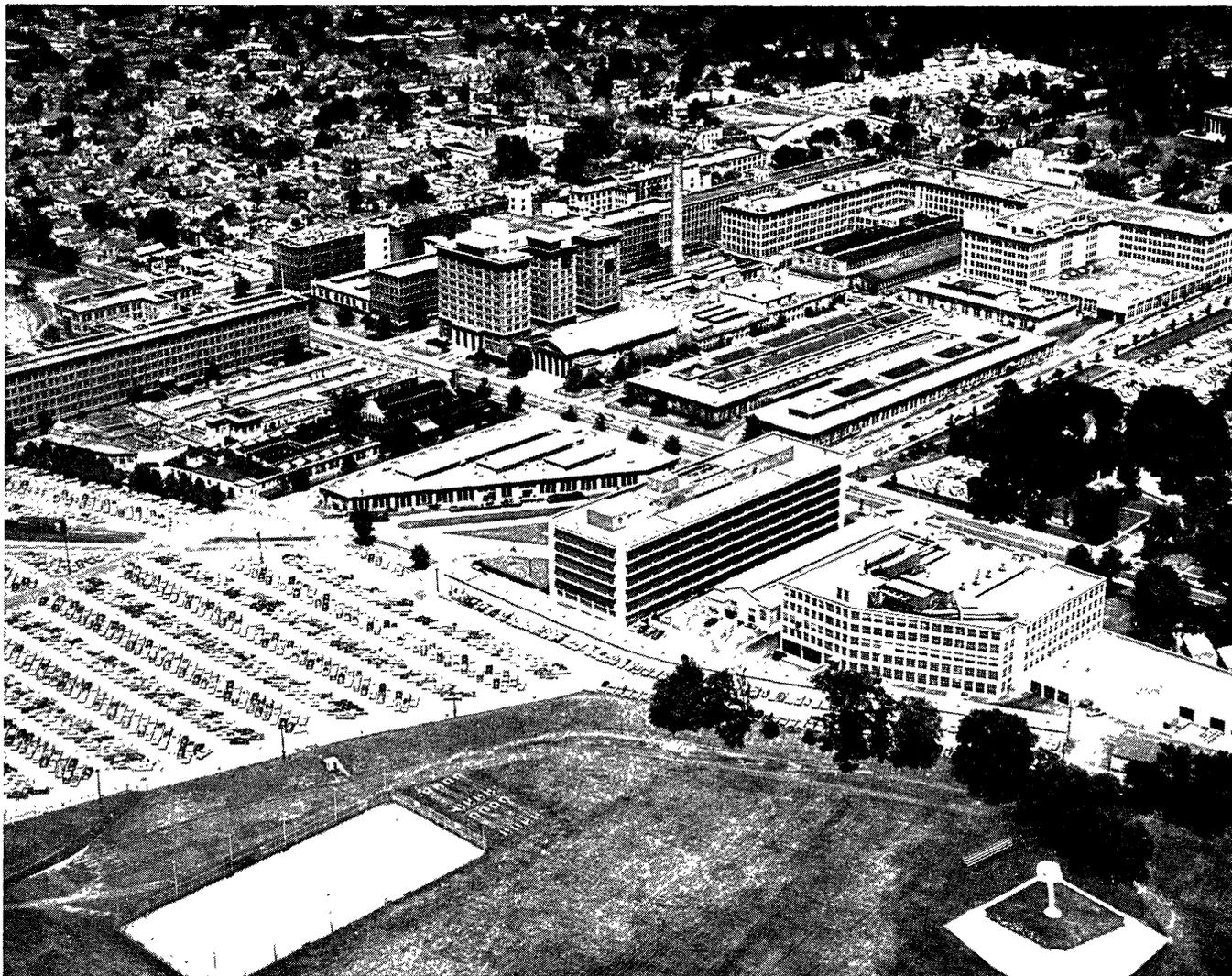
Benson-Lehner Corp.
Cubic Corp.
Di/An Controls, Inc.
Electro Instruments, Inc.
The Geotechnical Corp.
Smith-Corona Marchant Inc.
Tally Register Corp.
Technitrol Engineering Co. — see P10

T18. TYPEWRITERS, ELECTRIC, CONTROLLED

Benson-Lehner Corp.
FRIDEN, INC., San Leandro, Calif. / Flexowriter / DESCR: automatic writing machine; operates automatically from punched tape, edge-cards, or tab cards; produces by-product tape or cards; standard electric keyboard for manual input; code selector, code translator, tape punch and tape reader (tab card reader optional); will punch, read, duplicate, correct paper tape; 5, 6, 7, 8 channels optional / USE: to prepare documents at the source, to cause automatic punching of tab cards through direct connection with card punch or by tape-to-card conversion; to produce as a by-product punched tapes with complete or select information; tapes in turn are used to actuate other tape-operated machines such as communications equipment, address plate embossing machines, tape-to-card punches, computers, etc.; to read and cause automatic document preparation directly from tab cards / T18

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., *a / IBM 884 Typewriter Tape Punch / DESCR: The 884 creates a perforated tape simultaneously with the typing operation / USE: Perforated tapes created by the 884 control the IBM Tape-to-Card Punch for automatic conversion to punched cards / Monthly rental, \$75. Selling price, \$3,750. All prices exclusive of tax / T18

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., 112 East Post Rd., White Plains, N.Y. / IBM Typewriter Card Punch (Types 824 and 826) / DESCR: Both the 824 and 826 prepare punched cards for accounting use as an automatic by-product of typewriting operations. Each machine consists of two units, an IBM electric typewriter and a printing (826) or non-printing (824) card punch / Monthly rental ranges from \$95 to \$145. Selling price ranges from \$3,700 to \$7,400. All prices exclusive of tax / T18



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Few organizations offer more challenging opportunities for research and development work than The National Cash Register Company, Dayton, Ohio. Encompassing all sciences, National's Research Division is built on the philosophy that Progress is limited only by man's imagination... that research is the first step in Progress. Why not investigate the possibilities of working in one of these fields:

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Remington Rand Div. of Sperry Rand Corp.

Smith-Corona Marchant Inc.

SOROBAN ENGINEERING, INC., Box 1717, Melbourne, Fla. / Automatic Tabulators / DESCR: specialized coding and de-coding devices / USE: in control of electronic tabulators and similar printing devices / \$1600 to \$4900 / T18

T19. TUBES, ELECTRONIC

Amperex Electronic Corp.

Baird-Atomic, Inc.

Burroughs Corp., Electronic Tube Division

CALVERT ELECTRONICS, INC., 536 Broadway, New York 12, N.Y. / electronic tubes / DESCR: authorized distributor Eimac, Westinghouse and other U.S. and European companies. Test facilities maintained to provide tubes to any required specifications / USE: — / price range, unlimited / T19

CBS Electronics

General Electric Co., Receiving Tube Dept.

Radio Corp. of America, Electron Tube Div.

Raytheon Company, Industrial Components Div.

Tucor, Inc.

V1. VISUAL OUTPUT DEVICES

Allard Instrument Corp.

Burroughs Corp., Electronic Tube Division

C G Electronics Corp.

Chrono-log Corp.

Daystrom, Inc., Weston Instrument Div. Electro Instruments, Inc.

Hermes Electronics Co.

Industrial Development Engineering Associates

INTERNATIONAL BUSINESS MACHINES CORP., DATA PROCESSING DIV., 112 East Post Rd., White Plains, N.Y. / The IBM 740 Cathode Ray Tube Recorder / DESCR: An electronic output device designed for use with the IBM 701, 704, and 709. It provides an output which records data points on the faces of a pair of television-like tubes at the rate of 8,000 per second. The larger tube (780 CRT Display Unit) is used for visual display; the smaller tube (740 CRT Recorder) is used in conjunction with a camera under the control of the 701, 704, or 709. The camera automatically photographs information as directed by the computer program / USE: for scientific, engineering, and design problems / Monthly rental, \$2,850. Selling price, \$112,000. All prices exclusive of tax / V1

The Magnavox Company

Monroe Industries, Inc.

PHILCO CORP., GOVERNMENT AND INDUSTRIAL GROUP, 4700 Wissahickon Ave., Philadelphia 44, Pa. / visual output devices / V1

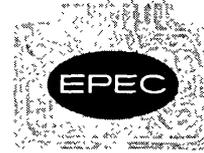
Raytheon Company, Industrial Components Div.

Tally Register Corp.

The Teleregister Corporation

Tucor, Inc.

Electralab Printed Electronics Corporation



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Western Division

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California
Tel.: Plateau
8-1181

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.

Charles W. Adams Associates, Inc., 142 the Great Rd., Bedford, Mass. / Page 31 / K. E. Morang Co.

Addo-x Inc., 300 Park Ave., New York 22, N.Y. / Page 21 / Sutnar-office

Bendix Corp., Bendix Computer Div., 5630 Arbor Vitae St., Los Angeles 45, Calif. / Page 19 / Shaw Advertising Inc.

Burroughs Corp., Detroit, Mich. / Pages 8, 9 / Carson Roberts Inc.

Cambridge Communications Corp., 238 Main St., Cambridge 42, Mass. / Page 37 / Robert Hartwell Gabiné

C-E-I-R, Inc., 1200 Jefferson Davis Highway, Arlington 2, Va. / Page 33 / M. Belmont Ver Standig, Inc.

Clary Corp., San Gabriel, Calif. / Page 67 / Erwin Wasey, Ruthrauff & Ryan, Inc.

Dialight Corp., 60 Stewart Ave., Brooklyn 37, N.Y. / Page 69 / H.J. Gold Co.

Electralab Printed Electronics Corp., Industrial Center, Needham Heights 94, Mass. / Page 74 / —

Library of Science, 59 Fourth Ave., New York 3, N.Y. / Page 2 / Wunderman, Ricotta & Kline, Inc.

National Cash Register Co., Dayton 9, Ohio / Page 73 / McCann-Erickson Inc.

Packard Bell Electronics, Computer Corp., 1905 Armacost Ave., Los Angeles 25, Calif. / Page 76 / Robinson, Fenwick & Haynes, Inc.

Philco Corp., Computer Div., Willow Grove, Pa. / Page 23 / Maxwell Associates, Inc.

Philco Corp., Government & Industrial Group, Computer Div., 3900 Welsh Rd., Willow Grove, Pa. / Page 3 / Maxwell Associates, Inc.

Potter Instruments Co., Inc., Sunnyside Blvd., Plainview, L.I., N.Y. / Page 5 / Donaldson Associates Inc.

Radio Corp. of America, Electronics Data Processing Div., Camden 2, N.J. / Page 75 / Al Paul Lefton Co., Inc.

The Ramo-Wooldridge Laboratories, A Div. of Thompson Ramo Wooldridge Inc., 8433 Fallbrook Ave., Canoga Park, Calif. / Page 15 / The McCarty Co.

F. W. Sickles Div., General Instrument Corp., 165 Front St., Chicopee, Mass. / Page 7 / Walter J. Zimmerman Associates, Inc.

Space Technology Laboratories, Inc., P.O. Box 95004, Los Angeles 45, Calif. / Page 6 / Gaynor & Ducas, Inc.

System Development Corp., 2406 Colorado Ave., Santa Monica, Calif. / Page 17 / Fuller & Smith & Ross Inc.

Technical Operations, Inc., 3520 Prospect St., N.W., Washington 7, D.C. / Page 71 / Dawson MacLeod & Stivers

John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N.Y. / Page 35 / Needham & Grohmann

COMPUTERS

and AUTOMATION

DATA PROCESSING • CYBERNETICS • ROBOTS

Volume 9
Number 6 B

JUNE 2, 1960

Established
September 1951

NOTICE

Because the regular June issue, THE 1960 COMPUTER DIRECTORY AND BUYERS' GUIDE, cannot be published until after the beginning of June, due to the quantity of information that it will contain, we are publishing separately the June news section "Across the Editor's Desk", and sending it to all of our subscribers.

NEWS of

Computers and Data Processors

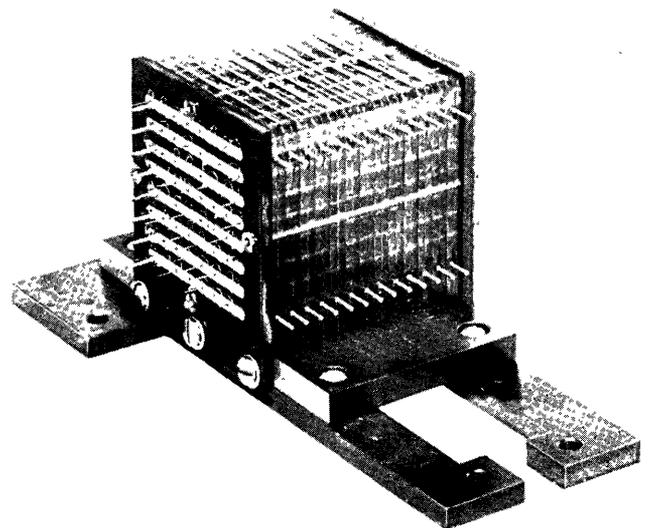
"ACROSS THE EDITOR'S DESK"

HIGH-SPEED "ROD" MAGNETIC MEMORY FOR NAVAL ORDNANCE TEST STATION

National Cash Register Co., 1401 E. El Segundo Blvd., Hawthorne, Calif.

A new concept in high-speed magnetic memories was shown recently when this company delivered its megacycle Rod memory to the Naval Ordnance Test Station, China Lake, Calif. Navy scientists plan to use this unit as a computer buffer memory for sequencing and control of automatic data-handling equipment for their NODAC (Naval Ordnance Data Automation Center) Facility. The memory should be able to replace a number of high-speed flip-flop registers.

This new memory was developed around the NCR magnetic Rod, one of the first prac-



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815 Washington St.
Newtonville 60, Mass.

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tical applications of thin magnetic films for memories. The Rod assembly consists of glass rods of 0.010-inch diameter which are electro-plated with a magnetic alloy and wound with many small coils.

The Naval Ordnance Test Station memory contains 768 bits; other memories can be of other capacities. Several small units can be combined into a modular system.

The complete read-write cycle, including access time, requires only one microsecond. Rod memories have been built to operate with a $\frac{1}{2}$ microsecond cycle: one intended to operate in $\frac{1}{4}$ microsecond is under development.

The Rod element has superior characteristics of ruggedness and temperature tolerance. It has operated over a temperature range of -100°C to $+200^{\circ}\text{C}$ without appreciable change in its switching characteristics. It can be switched in less than 50 millimicroseconds with moderate currents.

The tiny coils are wound by semi-automatic machines. Both the plating process for the Rod element and the assembly of the Rod with its small coils can be completely automated.

The National Machine Accountants Association Conference, in the Fairmont and other hotels in San Francisco, June 22-24, 1960, contains in its program the following seminars related to computers and applications. Most of these seminars are on June 23 and 24, and consist of two sessions.

Applications Seminars

- Non-Banking Applications of Character Sensing Equipment -- Paul Twohig, National Cash Register Co.; L. D. Goldsmith, General Electric Co., IBM Corp.
- Automated Payroll -- J. F. Lynch, Post Office Department
- Warehouse and Inventory Control -- Keith E. Oleson, Crown Zellerbach Corp.; H. S. Middough, U.S. Naval Supply Center
- Managing a Computer Center -- L. H. Amaya, Lockheed Missile Systems Div.; Dr. C. E. Miller, Standard Oil Company of Calif.; Robert M. Gordon, Stanford University; Richard Giffra, U.S. Naval Shipyard
- The Part-Time Computer -- Dr. H. R. J. Grosch, C.E.I.R., Inc.
- An Introduction to Automatic Programming for Business -- James A. Baker, Broadview Research Corp.; Robert L. Patrick, Computer Specialist
- Feasibility Studies -- C. W. Lambert, Sperry Operations-General Mills, Inc.

Equipment Seminars

- The IBM 1401 -- William J. McDonnal, IBM Corp.
- Source Data Origination -- Arnold Withol, Varian Associates; A. L. Hobgood, National Cash Register Co.; R. Erickson, Friden, Inc.; Don G. Nelson, Monroe Calculating Machine Co.
- RCA-501 Applications -- McDonald W. Anderson, Crucible Steel Co. of America; R. E. Williams, General Tire & Rubber Co.
- Processing Hard Copy at Computer Speeds -- L. J. Clawson, Burroughs Corp.
- Business Applications of Small Computers -- E. D. Tunis, Royal McBee Corp.; John L. O'Day, IBM Corp.; Edgar L. Lyons, Burroughs Corp.; R. H. Johns, Autonetics, Div. of North American Aviation, Inc.
- E.D.P.M. on the Solid State Computer -- E. J. Robinson, Economics Laboratory, Inc.; Robert H. Hain, Economics Laboratory, Inc.
- General Purpose Application of LARC System -- Sidney Fernbach, Lawrence Radiation Laboratory, University of California
- What to Expect from the Computer Manufacturer -- Dean Holdiman, Burroughs Corp.
- Honeywell Approach to Low Cost Data Processing -- S. D. Harper, Datamatic Div., Minneapolis-Honeywell

PROBING MOLECULAR PHENOMENA
TO ADVANCE DIGITAL COMPUTER TECHNOLOGY

Servomechanisms/Inc., Goleta, Calif.

R. F. Redemske, Vice President, Research Division of Servomechanisms/Inc., has stated that a group of scientists in this division, have developed some techniques for utilizing molecular phenomena for measurement purposes.

Present day digital computers are capable of extremely high precision. A serious limitation in control problems are the transducers that sense physical variables and convert them to electrical information to be fed to a computer. Most transducers "measure" the physical variables by the gross effect of quadrillions of molecules; they appear to have a continuous analog output. If transducers could sense these variables directly as a number or count instead of in this apparently continuous manner, then no conversion from analog form to digital form would be needed to satisfy the input requirements of a digital computer.

As an example, special vacuum deposition techniques can deposit a thin film containing holes with diameters approaching those of gas molecules (400 billionths of an inch). It should be possible to count the molecules leaking through such holes and relate the count to physical phenomena causing the molecular activity.

Since time can be measured very accurately, a transducer that inherently produced an output in the form of events per unit time would greatly improve the precision of digital computers used for control. A successful search for true digital transducers would thus constitute a significant contribution to the control field.

FACTOR OF 10 SAVING
IN LONG-DISTANCE VOLUME COMMUNICATION

Crosley Division, Avco Corp., New York, N.Y.

A new concept in communications that can transmit a 3000-word message over a telephone line in three minutes was announced late in April by this company. The same message would take from 30 to 50 minutes to transmit via ordinary teletypewriter.

Each unit of the new system (called Comex) consists of a two-speed magnetic tape recorder capable of recording the output of a standard teletypewriter on magnetic tape at slow speed. The magnetic tape is then run at ten times the slow speed as the information is transmitted over a standard telephone circuit. This message is then recorded at high-speed by a second Comex unit, but fed into a teletypewriter at slow speed and the message printed out.

The unit is compatible with American Telephone and Telegraph Company's service for transmission of teletypewriter messages and data over regular long-distance telephone lines. It can be used with all presently installed teletypewriters.

Comex units are small, compact, and weigh 150 pounds. During operation a minimum of noise is produced and there is no vibration.

Completely transistorized, Comex accepts messages from presently installed printers or paper tape transmitters at speeds of 60 to 100 words per minute. It transmits this information without distortion at speeds of 600 to 1000 words per minute. The system is capable of storing up to 12 hours of message information. Firms which have installed the device find it advantageous to store the information during the working day and then transmit it after hours so as to take advantage of lower telephone rates.

STATIC PUNCHED CARD READER

Richardson Scale Co., Clifton, N.J.

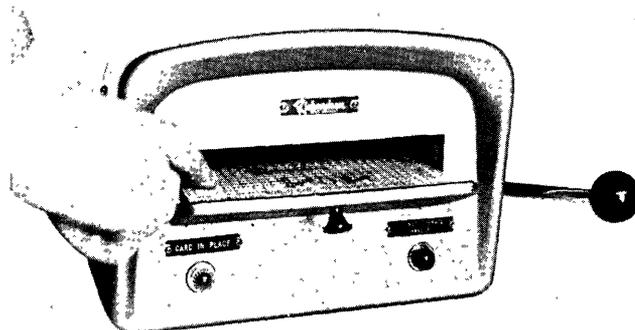
The Richardson Punched Card Reader was announced in March as a standard component in controlling plant or machine operations.

It is a static card reader, using a standard IBM card. The card is inserted and remains in one fixed position, reading all 960 holes (80 columns of 12 holes each) simultaneously. Programming of operating, manufacturing, or blending cycles may thus be accurately and positively controlled.

The static card reader controls operations in each progressive step, and can be built into many types of automatic machines or processes.

The advantages of using the standard business machine card are:

1. Large storage capacity
2. Cards can be prepared immediately on receipt of order from customer or from Production Planning Dept. to fill needs
3. Cards can be subsequently processed through punch card accounting machines for cost computations, inventory records, etc.



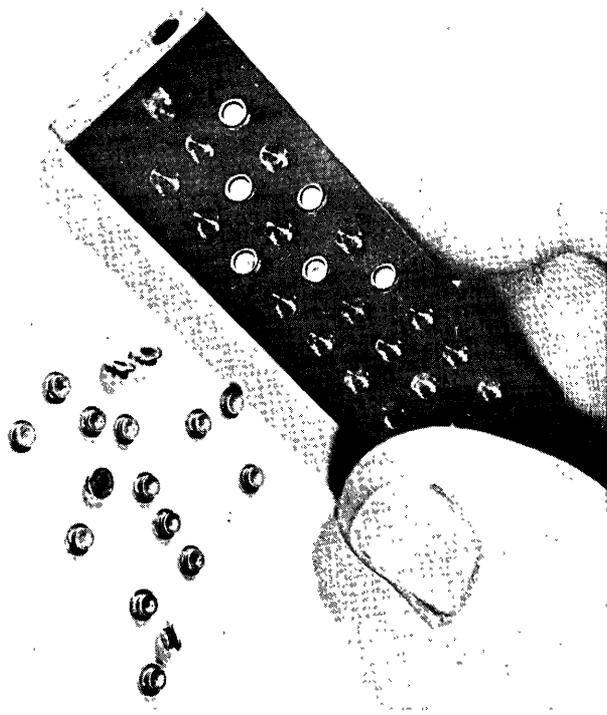
TUNNEL DIODES OPERATING AT 4000 MEGACYCLES

General Telephone and Electronics Corp., 730 Third Ave., New York 17, N.Y.

A miniaturized tunnel diode capable of oscillating at frequencies in excess of 4,000 megacycles, four times the range of previously announced tunnel diodes, has been developed.

General Telephone & Electronics Laboratories, Inc. and Sylvania Electric Products Inc. will manufacture and market it. The increased frequency range is the result of a new etching process and a low inductance packaging technique.

The increased capabilities of the new diode "should encourage design engineers in their quest for practical applications of the tunneling device".



LARGEST COMPUTING SERVICE CENTER IN U.S. OPENED

Control Data Corporation, 501 Park Avenue, Minneapolis 15, Minn.

This company has established a computing center at its Minneapolis, Minn. home office, which is the highest-capacity, operational, commercial computing center in the U.S. The principal computer in this permanent facility is one of Control Data's large scale, solid state digital computers, the 1604, with 32,768 48-bit words of high-speed magnetic-core storage. The installation includes a complete battery of peripheral equipment, including two Control Data Model 1607 magnetic tape systems comprising eight magnetic

tape transports, each of which is capable of reading and writing 30,000 characters per second. Additional peripheral equipment includes 80-column card punching and sensing equipment, a high speed printer, on-line typewriters and high speed punched paper tape readers and punches. In July, 1960, the facility will be expanded to include Control Data's Model 160 intermediate capacity desk-size computers.

The 1604 is a fully transistorized general purpose digital computer reflecting the latest advances in computer design and performs additions in 1.2 millionths of a second. The 1604-160 configuration is this company's recently announced "satellite computer system", which is a pioneering step in the computer industry. The intermediate-scale 160 computer and the large-scale 1604 operate together using common input-output equipment and common magnetic tape storage. The 160 operates under program control of the 1604, and the 160 can interrupt the operations of the 1604 in order to obtain access to the larger arithmetic capabilities of the 1604. Thus, in effect, the functional capabilities of the intermediate-scale 160 are greatly "amplified" by the large-scale 1604.

Control Data will use its computing center for several purposes. Primarily, it will be used as a source of computing time for Control Data's customers to test out their problems. Computing time on a service-bureau basis will also be made available to universities, and scientific and business organizations who have problems which require the capabilities of either the large-scale 1604 or the intermediate-scale 160. The computing center will be used by Control Data to facilitate engineering design on new systems, and as a proving ground for new items of input-output equipment. Control Data is also using the system for its own accounting operations, including the processing of data from its own Model 180 production data collectors.

400TH INSTALLATION OF LGP-30 COMPUTER

Royal McBee Data Processing Division, Port Chester, N.Y.

The 400th Royal Precision LGP-30 electronic computer was installed in early May at the Continental Oil Company in Ponca City, Oklahoma.

The LGP-30 was installed to provide research engineers with a handy, yet powerful, electronic computer useful in preparing speculative process designs, digesting, and interpreting pilot plant data and investigating potential process control applications.

The computer will be used in an open-shop way by Research and Development scien-

tific personnel for the solution of problems of moderate complexity. The machine will supplement a larger computer now available in Conoco's Computer Department. Hence, the LGP-30 will be used on a wide variety of scientific problems.

MAGNETIC TAPE STRIPES FOR NEW LEDGER SHEETS FOR AUTOMATIC ACCOUNTING MACHINES

Minnesota Mining and Manufacturing Co., 900 Bush Ave., St. Paul 6, Minn.

A new ledger sheet for automatic accounting machines -- featuring "stripes" of magnetic recording tape -- has been announced by Bann Incorporated, printers, St. Paul, Minn.

The following advantages of tape ledger sheets over similar forms using other types of magnetic tracks are:

- . Consistent signal output.
- . Reliability of performance.
- . Saving in time and operating costs.
- . Less wear on the magnetic reading head.

The sheets are designed for the Burroughs Sensitronic Posting Machine, which uses a magnetic recording and reading system for bookkeeping computation.

This machine is widely used by banks for posting checks and deposits on ledger sheets which contain both the customer's statement and the bank's record of the account.



By means of magnetic tracks on the rear of the sheet, recording heads in the machines "read" the new information on the ledger, record the new entries, and automatically update balances -- all within a matter of seconds.

Since a standard magnetic tape is used on the sheets, the Bann printer does not have the problem of controlling oxide thickness to assure uniformity of output. The producing company, Minnesota Mining and Manufacturing, in the actual manufacturing process makes some 60 quality-control checks.

Tracks on the Bann sheets are strips of "Scotch" brand No. 301, a high-output oxide recording tape with a paper backing. The quarter-inch tape is produced by 3M specifically for this usage in 3700-foot lengths, bulk packed on metal hubs.

Magnetic tape was selected by the accounting machine manufacturers when this system first came out, Bann indicated, but due to production obstacles encountered in laminating the tape to the paper sheets, the idea was abandoned. Employing a patent-applied-for method, Bann reports it now has solved the lamination problem.

This ledger sheet conceivably could pave the way for the largest single use of magnetic recording tape, if the system becomes accepted throughout industry for bookkeeping purposes.

Nine midwest banks have been trial testing the sheet for from six months to a year with satisfactory results, according to Bann. However, the commercial or non-bank application of the entire system may be a larger potential than the strict bank application -- an opinion based on the success of two such commercial applications, (a chain lumber company and a farm implement distributor) in the Minneapolis-St. Paul area and several others presently in the developmental stage.

-- Magnetic tape ledger sheets are designed for automatic accounting machines such as this one being used in a bank to post checks and deposits to customers' accounts. Tape tracks are used to automatically position the sheet in machine, record account code verification numbers, update balances and store check count.

ELECTRONIC DATA PROCESSING CENTER OPENED IN WASHINGTON

Radio Corporation of America, Rockefeller
Plaza, New York 20, N.Y.

A major new instrument in Washington's continuing struggle with paperwork was introduced as the Radio Corporation of America on May 12 opened an all-transistorized electronic data processing center in Washington to serve both government and business.

Speaking at the dedication of the new RCA Building at 1725 K Street, N. W., T. A. Smith, Executive Vice President, RCA Industrial Electronic Products, predicted that "maximum use of data processing could lead to a reduction of more than 50 per cent in the mounting volume of paperwork that today engulfs both government and business in the capital".

To illustrate the burden of paperwork that Washington bears, Mr. Smith cited these statistics: The federal government pays \$4 billion a year to make and keep permanent records; it prints 18 million forms a year at a cost of \$900 million, of which \$798 million (88 per cent) is for clerical processing; currently the government is storing close to 25 million cubic feet of permanent records.

"If you filled every inch of the Capitol Building with these records," Mr. Smith said, "there would still be 10 million cubic feet of records left to be stacked on the lawn outside.

"A pile of paperwork the size of the Washington Monument -- 555 feet -- with each invoice containing ten items, could be recorded on magnetic reels, ten inches in diameter, that would form a pile only six feet high. The data in it could be processed by the 501 for cost distribution analysis in 5 hours and 23 minutes."

A feature of the dedication ceremony was a demonstration of what the RCA 501 can do in a typical problem facing a government agency or a business firm.

In the demonstration, 400-odd transactions were run through the system against an inventory of some 5,000 items, providing a printed record of the transactions themselves, the status of the stock at the conclusion, and other information of importance to auditors. This was done in 3 minutes, 33 seconds. If done manually, the same task would have taken two men roughly a full eight-hour day to accomplish.

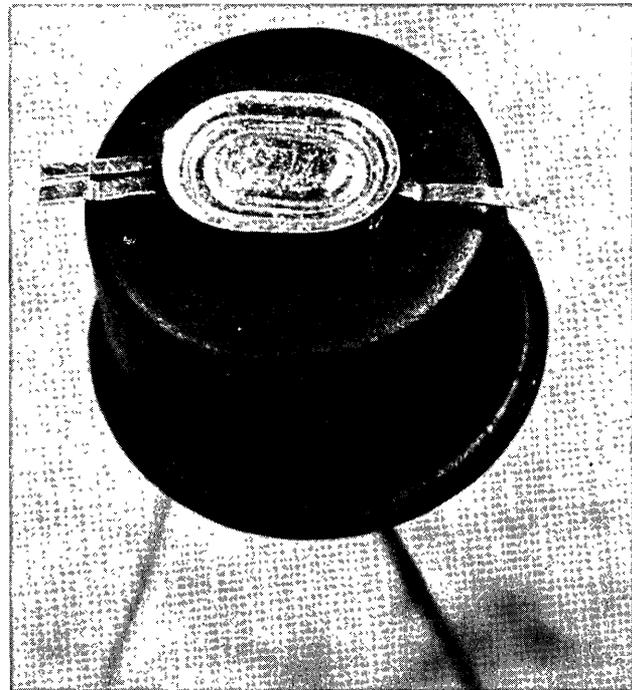
MICRO-MINIATURE HERMETICALLY SEALED TRANSISTOR ENCLOSURE

Philco Corp., Lansdale Div., Lansdale, Pa.

A new micro-miniature transistor enclosure small enough to permit component densities on the order of 1,000,000 parts per cubic foot -- approximately 16 times greater than present maximum component density -- has been developed.

Characteristics of the tiny enclosure were presented at the 1960 Electronics Components Conference on May 11 in a paper delivered by F. K. Clarke of the Lansdale Division's research and development operations.

The enclosure is a flat package measuring 0.125 inch wide, 0.180 inch long, and 0.060 inch high. About 42 such enclosures can be mounted on one square inch multi-element wafer, and still add only about 1/16 inch to its thickness.



-- The new microminiature transistor is shown resting on the top of an old-style transistor.

Designed specifically as a micro-element for incorporation on a small wafer, the Philco enclosure mounts easily into a slot in such wafers.

The design significantly features a cold welded, metal-to-glass, hermetically sealed package providing a minimum seal length of 0.050 inch. It will house any type of standard computer transistor.

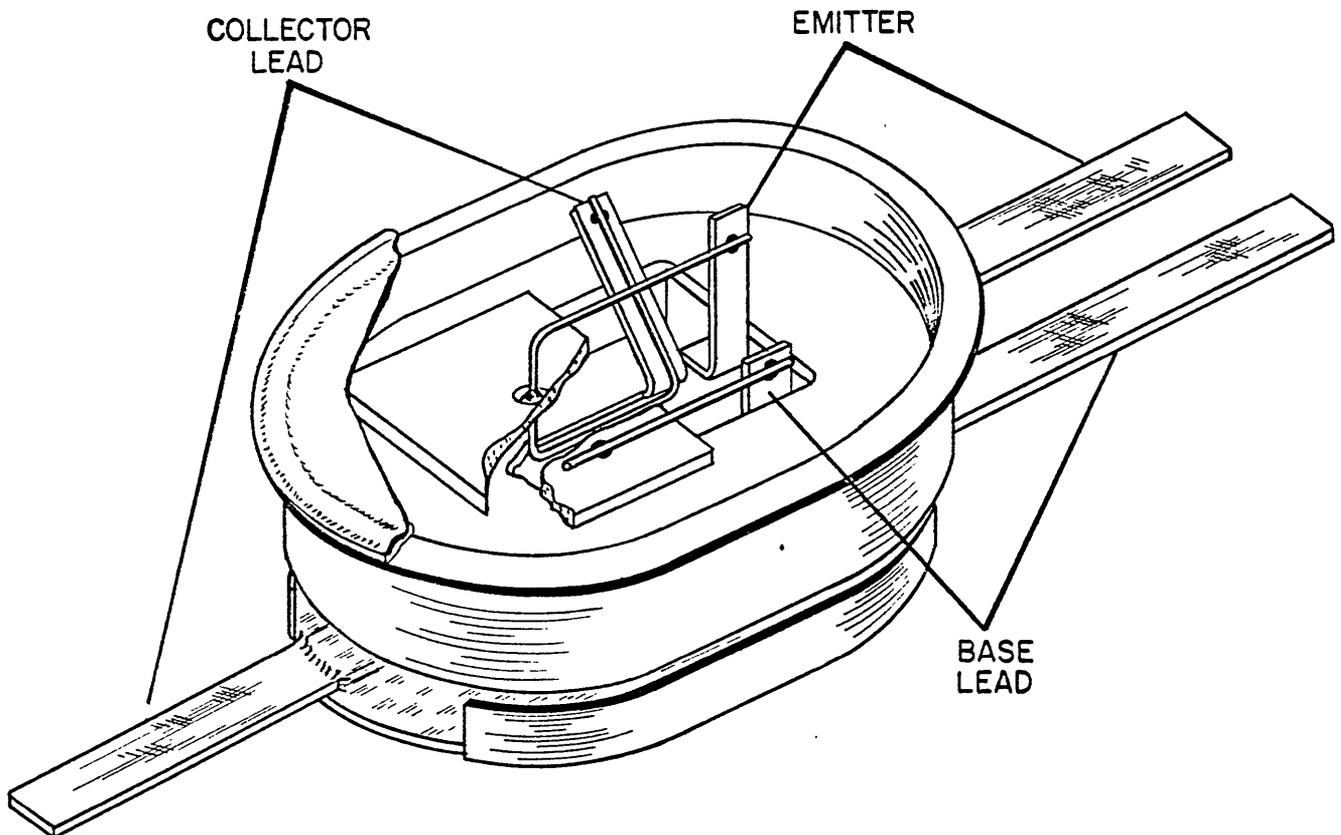
Electrical leads emerge from the enclosure in the horizontal plane greatly simplifying connections to other components.

The micro-miniaturization program at Philco's Lansdale Division stems from the aircraft, missile and space vehicle industries and their need for electronic gear of extremely small size with maximum reliability. As the sizes of electronic components shrink, the informative or directive capacity of a given volume of equipment increases. Thus, there is urgent need for miniature components, particularly the active circuit elements.

The new micro-miniature enclosure represents the culmination of developmental work designed to fabricate a transistor package small enough for mounting on a multi-element wafer, hermetically sealed for ruggedness and prevention of any chemical changes of the semiconductor surface which could degrade the transistor's characteristics, and providing convenient electrical connections.

The extremely small dimensions of Philco's micro-miniature enclosure were achieved through a combination of factors:

1. Reducing the blank to the minimum size consistent with handling ease and the hydraulic considerations associated with electro-chemical processing.
2. Locating the whisker wire knee closer to the blank. With present whisker wire attaching machinery, the whisker is set at approximately 0.030 inch from the electrode.
3. Positioning the lead strips in such a manner that a seal length of 0.050 inch is provided with minimum effect on the exterior dimensions of the package.



-- The lower portion of the package consists of a base plate and a rounded rectangular cup, separated by a layer of glass.

Strips of metal (0.003 inch thick) are embedded in the glass and serve as electrical connections to the semiconductor device.

The top plate is cold welded to the package flange, forming a hermetic seal. The enclosure is 0.180 inch long, 0.125 inch wide, and 0.060 inch high.

The emitter, base and collector are electrically isolated from the package, thus permitting greater freedom in circuit design.

The blank is bonded rigidly to the stem providing a strong, reliable structure in addition to conserving space.

The emitter and collector whisker wires are welded directly to the metal strips which serve as the external leads.

NEW PORTABLE DATA GATHERING SYSTEM
FOR COMPUTER LINKAGE

Epsco, Inc., 275 Mass. Ave., Cambridge, Mass.

This company has developed a truly portable high-speed digital data gathering system for general use. The system makes possible for the first time the gathering of data, both analog and digital, from a multiplicity of signal sources, such as thermocouples, shaft encoders, strain gauges, etc., and directly prepares in the field a tape recording in the exact format of the user's data processing computer.

The new line of portable data gathering systems (including the tape recorder) has been physically designed into several suitcase-like carrying cases. Each piece of equipment is light-weight and can be carried easily in an automobile trunk from data processing center to field installation. The units can accept data from up to several hundred data sources, making digital conversions and measurements at rates up to many thousands per second.



-- Suitcase-packaged digital data system delivered to David Taylor Model Basin

The first delivery of the new product was made to the David Taylor Model Basin where the equipment is used to gather data in the new atomic submarines. The equipment is being used both on land and at sea in carrying out tests of interest at the Model Basin. The use of the new equipment has made possible the elimination of previously

laborious analyses of seemingly endless strip charts of analog data, and further makes possible complex computation and data processing from the prepared computer tape.

The system is flexible and applicable to any data handling situation where it is desired to accurately collect and process information on the spot and then subsequently process the data in a central computer. Designed to withstand both severe environmental conditions and rugged handling, the equipment is surprisingly light.

CONTROLS OVER STATE OIL AND GAS REVENUES

Commissioner of Administration, State of Louisiana, Baton Rouge, La.

The State of Louisiana has developed tight new controls on its annual oil and gas revenues of nearly a quarter-billion dollars with the aid of an electronic computer.

The new system, shown late in April, represents a pioneering approach to improved state revenue collections and accounting controls. It coordinates the primary records of the five separate government departments responsible for the administration of these resources.

Increased revenue and more effective accounting are expected from the new control technique. An IBM 650 tape computing system in the State's new Data Processing Center will monitor every barrel of oil -- from the ground to the refinery -- for 12,000 producing leases in 56 parishes. This will assure that the State receives its proper severance taxes and mineral royalties.

The new controls have been made possible by a cooperative program involving Louisiana's Conservation Department, Register of State Lands, Revenue Department, Mineral Board, and the Division of Administration.

The State has approximately 800 producing fields.

"There are only 170 industrial corporations in the United States that take in a quarter-billion dollars a year, as we do from oil and gas," the Commissioner said. "This computer system will enable us to know all we need to know about these operations."

Basically the State's new system is built on a series of cross-checks among the various participating departments as oil and gas moves from the well to the transporter to the refinery and into interstate commerce. Stored in the IBM 650's magnetic tape files are complete records about each producing lease in the State and each of more than 1,200 producers, 275 transporters and 30 refiners.

NEW MAGNETIC DISK MEMORY DEVICES

Laboratory for Electronics, Computer Products Division, Boston, Mass.

Rotating magnetic disk storage devices, the BD-100 (Bernoulli Disk) Series, are now available for commercial application.

The flexible rotating disk of paper-thin magnetic mylar material maintains a small, controlled separation between the mylar and the read/write heads of the memory unit by means of basic fluid motion principles.

Due to the low mass of the revolving disk, the positive separation constantly maintained between disk and back plate, the air-tight sealing of the entire unit, and the simplification of machining required, the Bernoulli Disk-100 Series offers many advantages over usual drum-type memory units. It may be mounted either horizontally or vertically without decreasing performance. The reliability is extremely high, with virtually no possibility of damage to the recording medium or to the read/write heads. It requires no warmup and can withstand severe thermal shock, operating within a temperature range of +30° to +150°F. It is unaffected by severe vibration and shock. The BD-100 Series is but a fraction of the weight of conventional storage drums, weighing approximately 15 lbs., and measures 9" x 9" x 5". The disk, 7½" in diameter, stores 100,000 bits of information on 32 tracks, up to 3,000 bits per track.

The read/write head design, storage disk speed, and operating frequency may be varied according to the customers' specifications. The read/write heads are compatible with solid state circuits. The disk rotation speed varies between 1800 and 8000 rpm depending on the unit employed. The read/write bit rate varies from 90 to 400 kilocycles to fit the application. Power source may range from 60 to 400 cycles per second. These disk memories are expected to sell for 20-25% less than conventional drums of the same 100,000 bit capacity.

WIRE SPRING RELAY WITH 51 POLES

Automatic Electric Co., Northlake, Ill.

A new "wire-spring" relay, designed to transfer up to 51 circuits quickly for 100 million or more operations without readjustment, has been developed by this company.

A unique actuating card -- activated by armature movement -- operates all moving wire-spring contacts simultaneously and independently. The moveable springs are aligned and anchored in a molded assembly. A plastic comb aligns the relay's stationary springs.

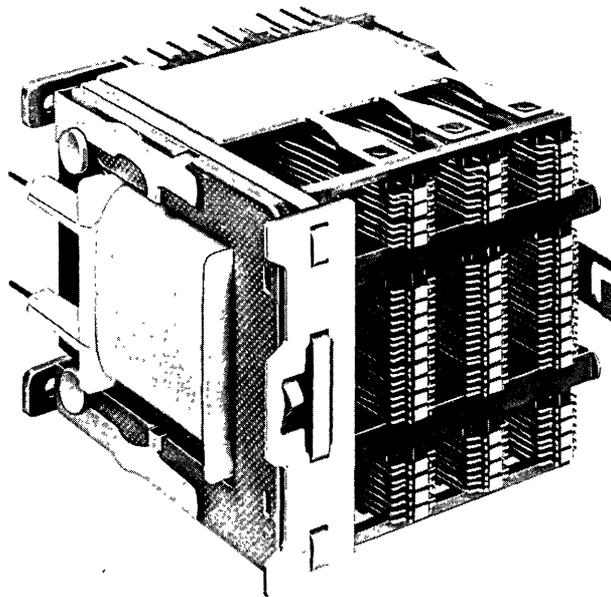
The relay is available in one, two, or three levels of contact assemblies, with up

to 17 contact combinations, each. The largest contact pile-up (51) requires less than 4 watts operating power.

To insure positive contacting, the company is manufacturing the relay with twin, independent contacts of palladium-silver. The self-equalizing contacts are coined after welding into a dome configuration for proper mating, and will carry 3 amps, 150 watts, non-inductive load. Contacts are protected from dust by a transparent plastic cover.

Individual adjustment of spring contacts is not necessary. The entire level of stationary springs may be controlled by simple adjustment of their supporting arm. Solderless-wrap terminals eliminate soldering defects and provide gas-tight, corrosion-resistant connections.

A full 51-circuit, three level relay will sell for about \$50.



ANNUAL MEETING OF THE ASSOCIATION FOR COMPUTING MACHINERY, MILWAUKEE, AUGUST 23-26, 1960

The Fifteenth Annual Meeting of the Association for Computing Machinery will be held at Marquette University, Milwaukee, Wisc., for four (not three) days, August 23-26, 1960. Among the events of the fourth day, August 26, there will be a three-hour session on Education and Computers.

Contributed papers concerned with all phases of analog and digital computation, business applications, and data processing have been solicited.

The program is to include a substantial number of invited 35-minute papers, survey talks, round-table discussions, and a "Hall of Discussions".

Local arrangements are under the direction of Prof. Arthur Moeller, Marquette University.

ELECTRONIC STAR NAVIGATION

ITT, International Telephone and Telegraph Corp., 67 Broad St., New York 4, N.Y.

An operative model of a new electronic star tracking system, that someday may tell space vehicles where they are and where they are going, has been constructed by this company.

The device utilizes an ITT photomultiplier tube which transforms a star's optical image into an electrical signal, amplifying these signals 2,000,000 times in the process. A similar tube has been called the "prime detector" in the recent high-altitude observations of Venus, studies which at last indicated the presence of water vapor on that neighboring planet.

Electronic scanning of the signals within the tube determines if the star signal deviates from the true optical line of sight to the star. Resulting scanning signals are used to restore the alignment of the tube to the precise line of sight. By relating the space vehicle with respect to this established line of sight, information is made available for guidance and control of the vehicle.

Conventional optical star tracking systems employ relatively heavy and cumbersome telescopes, obviously unsuitable for space vehicles where weight and size are at a premium. Also, due to the speed and distances involved in space travel, rapid determination of location is vital.

ENGINEERS CAN MATCH WITS WITH GENERAL ELECTRIC BEFORE APPLYING FOR JOB

Deutsch & Shea, Inc., 230 West 41st St., New York 36, N.Y.

Matching wits with General Electric's own technical staff before applying for an engineering position will be made possible through a series of self-administered, self-scoring technical tests developed by G.E.'s Light Military Electronics Department.

Six months in the preparation and pre-testing stages, the technical tests will be available for engineers and scientists to answer and score in the privacy of their own homes. Grades achieved can be compared with an interpretive scale based on performance of Light Military engineers at all experience levels. Tests cover the fields of Radar, Microwaves, Communications and Electronic Packaging.

By rating himself against the company's own staff, a prospective employee can gain a better insight into his chances for a successful engineering career at G.E. The company made it clear that the tests are for private use only by individual engineers and scientists; scores need never be divulged to G.E.

In addition to the technical tests, a psychological inventory form will be available for potential engineering managers and administrators to rate their own aptitudes and abilities in this area.

Considered by General Electric to be a "first" in personnel practice, the testing program is intended to bring a new degree of precision to the problems of selecting a job from the engineer's point of view.

Any qualified engineer holding a BS or advanced degree can receive copies of the tests, and answer sheets related to his fields of interest (limited to two tests per person) by writing directly to Mr. Ron Bach, Light Military Electronics Department, General Electric, French Road, Utica, N.Y.

SOLVING 46 SIMULTANEOUS EQUATIONS FOR STRUCTURAL ANALYSIS, AND MORE

Bendix Computer Division, Bendix Corp., 5630 Arbor Vitae St., Los Angeles 45, Calif.

The Stanley Engineering Co., Muscatine, Iowa, in reviewing its use of a general purpose computer, reports successful results in several major fields. The firm utilizes the G-15 manufactured by the Bendix Computer Division for engineering computations.

Reduction of design time and improved accuracy have resulted since installation of the computer in July, 1958.

The firm operates both in this country and on the African continent in the fields of civil, architectural, electrical and mechanical engineering. It uses the computer chiefly for problems of highway and structural design, hydraulics, electrical distribution system design and analysis, geometry, power plant design, heating and air conditioning, surveying, water system analysis, and statistical work in connection with rate studies.

One program was used successfully on the solution of 46 simultaneous equations for structural analysis. Other programs rated as valuable include: geometry for highway design; matrix algebra for structural analysis of rigid frames; earthwork for highways; and hydraulic programs for flood control studies.

The computer assists a staff of 120 engineers and architects, along with 80 technicians. The computer group includes three full-time employees (a professional engineer, a technician and a typist). Two other employees (a professional engineer and a technician) also do some of the programming.

PACKAGING MICROMINIATURE ELECTRONIC CIRCUITS
ON STACKED WAFERS, EACH SMALLER THAN
A POSTAGE STAMP

Sylvania Electric Products, Needham, Mass.

A technique for packaging microminiature electronic circuits on a series of stacked wafers, each smaller than a postage stamp, was announced on May 11 by Sylvania Electric Products Inc., a subsidiary of General Telephone & Electronics Corporation.

Because of small size and ultra-reliability, the versatile circuit package, a "microminiature module", will find initial application in communications, digital control, and other electronic circuits within missiles and satellites. Ultimate commercial use will lead to microminiaturized computers, display equipment, radio transceivers and telephone exchange equipment.

Gerald J. Selvin, manager of microelectronics at the Applied Research Laboratory of Sylvania Electronic Systems, a major division of the company, said development of the tiny module (below) will be completed within the next two months. Fabrication of pilot quantities is expected to be under way by the end of the year, he said.



MEETING OF USERS OF LGP-30

J. H. Vanderford, Librascope Div., 808 Western Ave., Glendale 1, Calif.

POOL, the LGP-30 users organization, held its second annual meeting on March 29 to 31 in Cleveland, Ohio. A wide range of papers covering automatic programming, literature search, statistics, and business data processing was presented. Registration showed an attendance of 121. The chairman is Prof. William A. Smith, Jr., Lehigh University, Bethlehem, Pa.

The organization has just issued a manual of "Programming and Publication Standards". Inasmuch as POOL is perhaps the only organization of computer users that reviews programs submitted by its members for publi-

cation, this manual fulfills long-felt needs for explicit instructions for the writing of programs and for criteria for reviewing the resulting writeups. The manual was issued in loose-leaf form so that supplements and replacements can be incorporated.

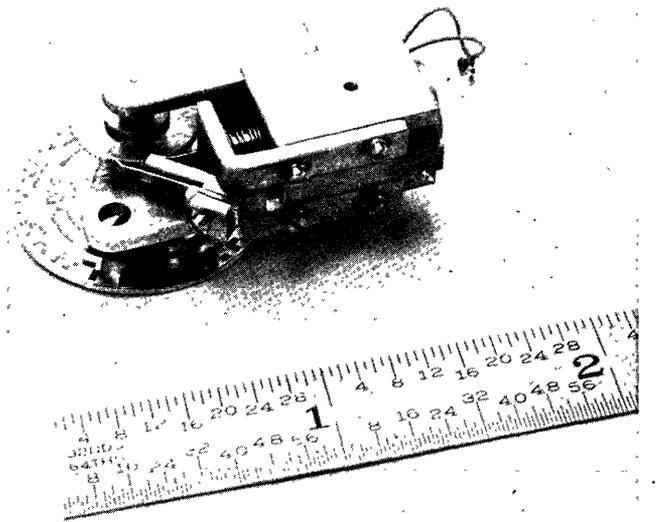
MINIATURE SEQUENCE PROGRAMMER

Elgin Micronics, Division of the Elgin National Watch Co., 366 Bluff City Blvd., Elgin, Ill.

A new, miniature, solenoid-actuated switching device to encode or decode events in a sequence has been developed by this company. The device is designed for operation with solid state circuitry over a wide range of input rates; it employs an interchangeable coded disc to determine or sense the sequence of events.

It is expected to have wide general application in complex automatic control operations, and provides highly precise indexing action. This precision permits division of the program disc for sequences requiring up to 100 switch positions.

The complete programmer, including coded disc, is less than 1-3/4 inches long and weighs only 9/10 ounce. It is rated for 4 to 8 volts; it will operate with input pulses as short as 11 milliseconds; it will give up to 70 indexing motions per second. Environmental tolerance covers a temperature range from -40° to +165°F, vibration at 10g from 5 to 55 cps and shock at 15g-11ms in accordance with MIL-E-5272, making the switch ideal for inclusion in airborne or missile equipments.



ELECTRONIC COMPUTERS IN THE FUTURE

Clair C. Lasher, General Manager, General Electric Computer Dept., Deer Valley Park, Phoenix, Arizona

(Based on a talk, May 17, before the annual meeting of the National Federation of Analysts Societies)

This year's estimated computer industry volume of \$1.1 billion is possible because there are many computing equipments being produced which were impractical five years ago, and they are being applied to problems and situations that were not considered economical applications five years ago.

The phenomenal growth of the computer industry comes directly from the progress of electronics during World War II. Computers would be no more than a laboratory tool today had it not been for the perfection of the modern techniques of electrical control and amplification, both dependent upon the existence of such devices as the transistor, with its simplicity of structure, low cost, and extreme economy of power.

Five major problems now facing the computer industry must first be solved if computers are to continue to satisfy fundamental needs adequately.

These are: the problem of understanding and developing their applications; making the computer easier to program; securing greater reliability in computers; standardizing both hardware and computer languages; and plowing money back into the business for the future, providing both basic research and development and a base for continued lease-financing.

We fully expect that within the next decade, better than 80 per cent of the computers sold will be used in new applications unknown today but made possible by further study and subsequent experimentation and understanding of the application.

Computers must be designed to accept formulas as mathematicians have historically prepared them and to be able to read directly from source documents.

As to reliability, the on-line control of a turbine generator or a cement plant simply cannot tolerate the malfunction of control equipment due to failure of an electronic component.

Standardization should be confined to computer language and interchangeable components.

General Electric is the largest non-government user of computers. Thus General Electric has considerable knowledge concerning applications of computers, and this is a primary key to marketing these devices.

The price of admission to the computer business is "well over 50 million dollars".

In data-processing computers, the ERMA systems developed by General Electric for the Bank of America in California are processing over one-half million accounts every working night. General Electric is still in the position of having the only equipment for this purpose installed and operating in a bank.

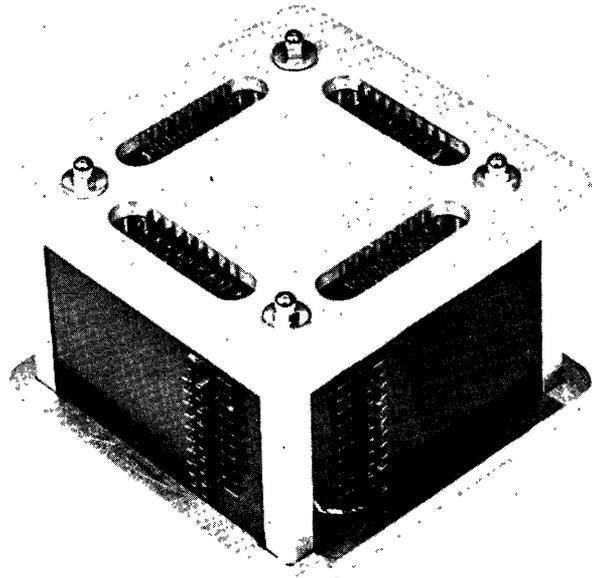
Information handling is one of the important fundamental methods of increasing productivity through automation. Automation is not a problem of the future but rather is the only solution to many problems of the future.

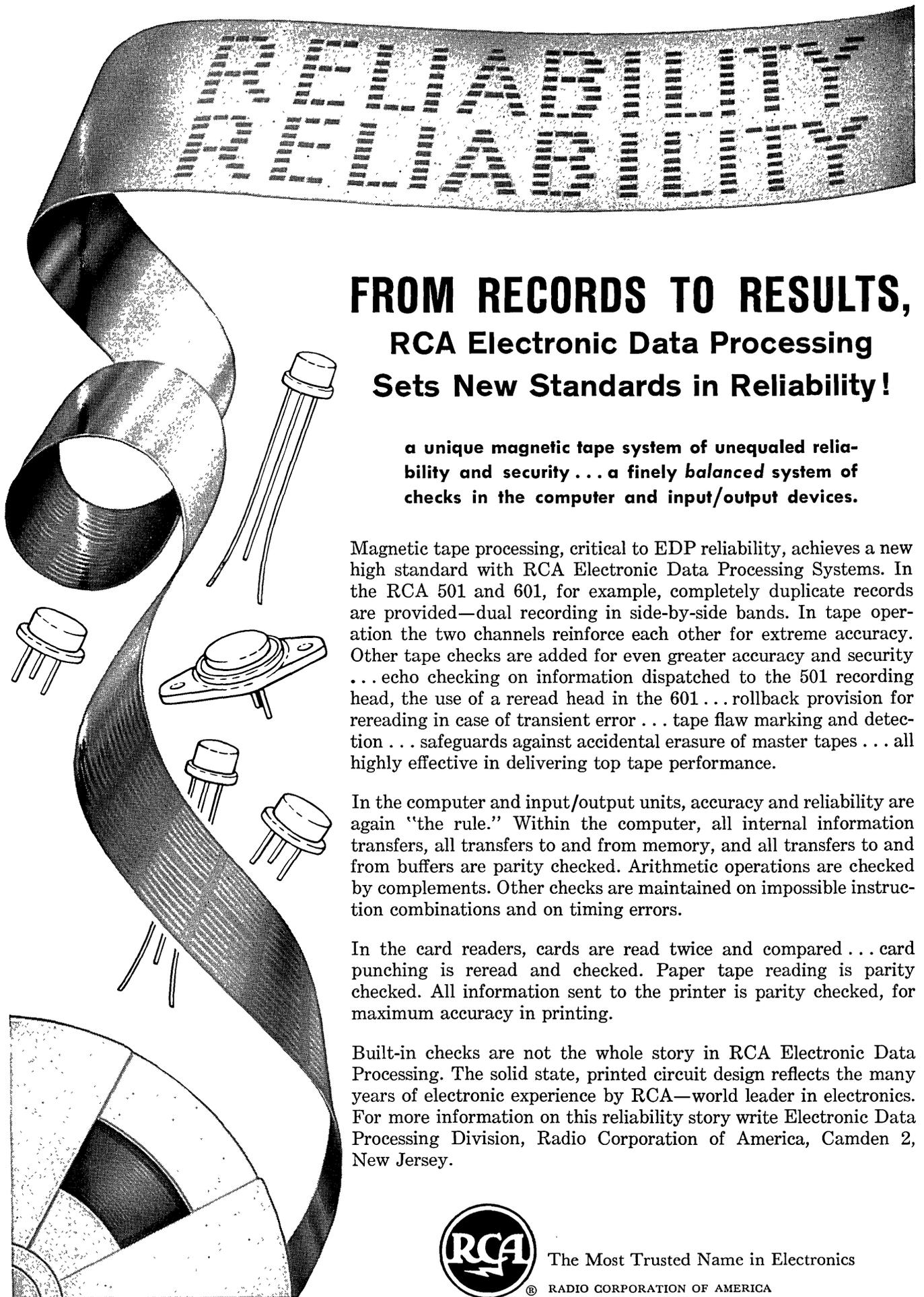
We believe the electronic automation business will have a very great growth in our economy during the 1960's and have a total industry volume of more than \$20 billion by 1970, up more than 300 per cent over last year's estimated industry volume of some \$6 billion. Computers are the heart to all automation.

MEMORY CORE STACKS

Ferroxcube Corp. of America, Saugerties, N.Y.

This company is producing a complete line of memory core stacks using 50 mil outside diameter magnetic cores, for use in co-incident current, transistorized computers. These stacks are available in any wiring configuration with switching times as low as 3/10 microsecond and drive currents as low as 360 milliamperes. Word range is from 256 to 16,384 words. All cores are thoroughly checked prior to insertion in the memory and again following assembly.





FROM RECORDS TO RESULTS, RCA Electronic Data Processing Sets New Standards in Reliability!

a unique magnetic tape system of unequalled reliability and security . . . a finely balanced system of checks in the computer and input/output devices.

Magnetic tape processing, critical to EDP reliability, achieves a new high standard with RCA Electronic Data Processing Systems. In the RCA 501 and 601, for example, completely duplicate records are provided—dual recording in side-by-side bands. In tape operation the two channels reinforce each other for extreme accuracy. Other tape checks are added for even greater accuracy and security . . . echo checking on information dispatched to the 501 recording head, the use of a reread head in the 601 . . . rollback provision for rereading in case of transient error . . . tape flaw marking and detection . . . safeguards against accidental erasure of master tapes . . . all highly effective in delivering top tape performance.

In the computer and input/output units, accuracy and reliability are again "the rule." Within the computer, all internal information transfers, all transfers to and from memory, and all transfers to and from buffers are parity checked. Arithmetic operations are checked by complements. Other checks are maintained on impossible instruction combinations and on timing errors.

In the card readers, cards are read twice and compared . . . card punching is reread and checked. Paper tape reading is parity checked. All information sent to the printer is parity checked, for maximum accuracy in printing.

Built-in checks are not the whole story in RCA Electronic Data Processing. The solid state, printed circuit design reflects the many years of electronic experience by RCA—world leader in electronics. For more information on this reliability story write Electronic Data Processing Division, Radio Corporation of America, Camden 2, New Jersey.

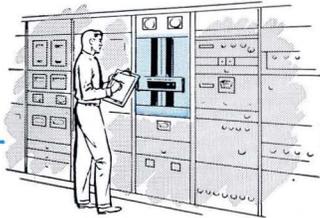


The Most Trusted Name in Electronics

RADIO CORPORATION OF AMERICA

the pb 250

a general purpose, microsecond computer for \$30,000



The design of the PB 250 enables it to be mounted as a systems component in 31½ in. of a standard relay rack.

SPECIFICATIONS

TYPE

Serial, binary, internal program.

COMMAND STRUCTURE

Single address with index register.
46 commands.

OPERATION TIMES (22 bit word)

Add/subtract	12 μ sec.
Multiply	276 μ sec. (max.)
Divide	252 μ sec. (max.)
Square root	252 μ sec. (max.)

MEMORY

Type: Magnetostrictive delay lines.
Capacity: 1,808 words standard, expandable to 15,888 words.

INPUT-OUTPUT

Standard: Automatic typewriter, paper tape punch and reader, 30 control inputs, 32 control outputs, high-speed block input-output (85 KC word rate).

Optional: High-speed paper tape punch and reader, magnetic tape units (six maximum) employing IBM 700 series format, punched card equipment.

DIMENSIONS

30 in. high, 19 in. wide, 24 in. deep.

POWER REQUIREMENT

115 volts, 60 cycles, at 100 watts.

COMPLETELY SOLID STATE

Outstanding features of the PB 250 include: • **MICROSECOND SPEED:** Addition and subtraction require 12 microseconds. Multiplication takes 276 microseconds and division 252 microseconds. • **EXPANDABLE MEMORY:** Minimum capacity of 1,808 words, expandable to 15,888 words. External core memory of 16,384 words available. • **COMMAND STRUCTURE:** Versatile command list of 46 instructions. • **SIMPLE PROGRAMMING:** Internally programmed, single address instructions, command indexing, and automatic double precision operations. • **INPUT-OUTPUT SYSTEMS:** Automatic typewriter, paper tape reader, and punch standard. Complete range of peripheral equipment available. • **EXCEPTIONAL RELIABILITY:** Conservative solid-state design, small component count, and absence of moving parts. • **SYSTEMS INTEGRATION:** May be integrated into existing systems, on- or off-line. Ability to operate as universal format-to-format converter.



PACKARD BELL COMPUTER

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