computers and automation

THE COMPUTER DIRECTORY AND BUYERS' GUIDE, 1962

the June, 1962 issue of "Computers and Automation"

Roster of Organizations in the Computer Field

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

Surveys of Computing and Consulting Services

Descriptions of Computers: Digital, Analog, Special Purpose

Over 500 Areas of Application of Computers

and more besides

JUNE
1962
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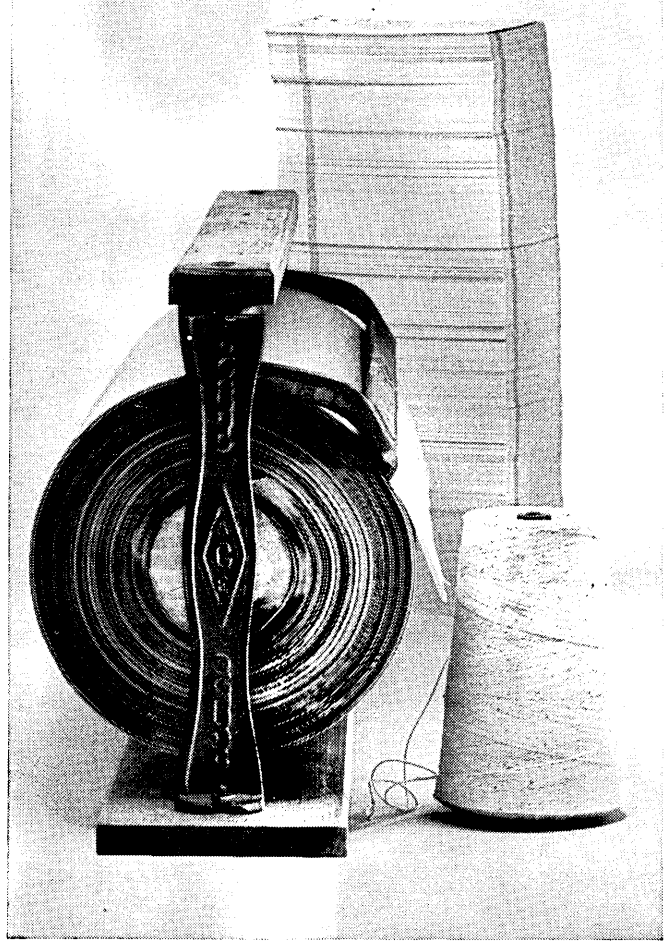
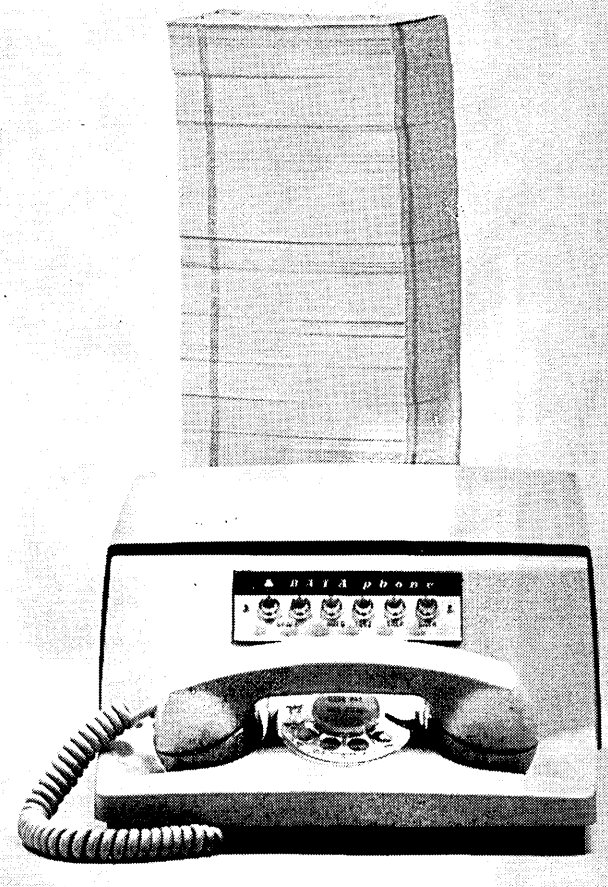
VOL. XI — No. 6

IN THE TIME YOU TAKE TO WRAP IT...



YOU COULD TELEPHONE THIS DATA!



How? With Bell System DATA-PHONE service. It lets you send business data over telephone lines at speeds up to 2500 words per minute at regular telephone rates. All kinds of data—payrolls, waybills, sales orders, inventories, even drawings. Saves time, cuts cost, speeds customer services. Questions? Just call your Bell Telephone Business Office and ask for one of our Communications Consultants. He'll gladly explain how DATA-PHONE service can extend your business machines to where they're needed, and how it broadens your control of operations for savings and profit.

BELL TELEPHONE SYSTEM

SYSTEMS ENGINEERED

Blending a powerful, high-speed central processor with a uniquely flexible communications system, the Bendix G-20 is systems engineered for more scientific management control...maximum productivity per dollar invested. ▪ The self-organizing, self-monitoring capabilities of the G-20—achieved under executive programmed control—permit dynamic re-scheduling to meet the swift-paced demands of modern management decision making. Multiprocessing—the concurrent handling of business and scientific programs—becomes a practical reality with the Bendix G-20 computer system. ▪ Thanks to complete automatic control of memory allocation and designation of multiple communications channels and input-output accessories, the G-20 represents the most effective operational configuration for every kind of computational workload. The result: the elimination of piecemeal data processing...a truly balanced system, without sacrificing speed, as reflected in the G-20's magnetic tape transfer rate of 240,000 digits per second. ▪ And don't overlook the nationwide support provided by Bendix—systems support in depth...from preliminary evaluation through systems analysis, automatic programming and installation to maximum "uptime" performance. Your nearby Bendix Computer representative will be glad to introduce you to the cost reducing capabilities of the proven, systems engineered Bendix G-20. Or write, Bendix Computer Division, 5630 Arbor Vitae Street, Los Angeles 45, California. Dept. D-40.

Bendix Computer Division

THE Bendix CORPORATION

THE BENDIX® G-20 COMPUTING SYSTEM

NOW IN OPERATION—Carnegie Institute of Technology, Pittsburgh, Pennsylvania

COMPUTERS *and* AUTOMATION

COMPUTERS AND DATA PROCESSORS, AND THEIR CONSTRUCTION, APPLICATIONS, AND IMPLICATIONS, INCLUDING AUTOMATION

Volume XI
Number 6

JUNE, 1962

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September 1951

THE COMPUTER DIRECTORY and BUYERS' GUIDE For 1962

. . . commencing page 10

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YOU'RE READING THE ONLY LANGUAGE YOU NEED TO KNOW TO PROGRAM THE NEW BURROUGHS B 5000 EDP SYSTEM FOR BUSINESS DATA PROCESSING

Finally! Here is a system specifically designed for programing in simple English language statements called Cobol. ■ *And from these easily written English statements, the new B 5000 automatically creates its own machine language program; a program unique in its operating efficiency.* ■ *What's more, if you have scientific or engineering problems to solve, the B 5000 will just as efficiently accept programs written in common algebraic terms.* ■ *This new Burroughs B 5000 is a truly advanced electronic data processing system. It understands you perfectly. Your language. Your problems. Your concern for costs.* ■ *A skilled Burroughs data processing team is ready to help you save the time and trouble and expense a computer system is supposed to save you. Write to us at Detroit 32, Michigan.* Burroughs—TM

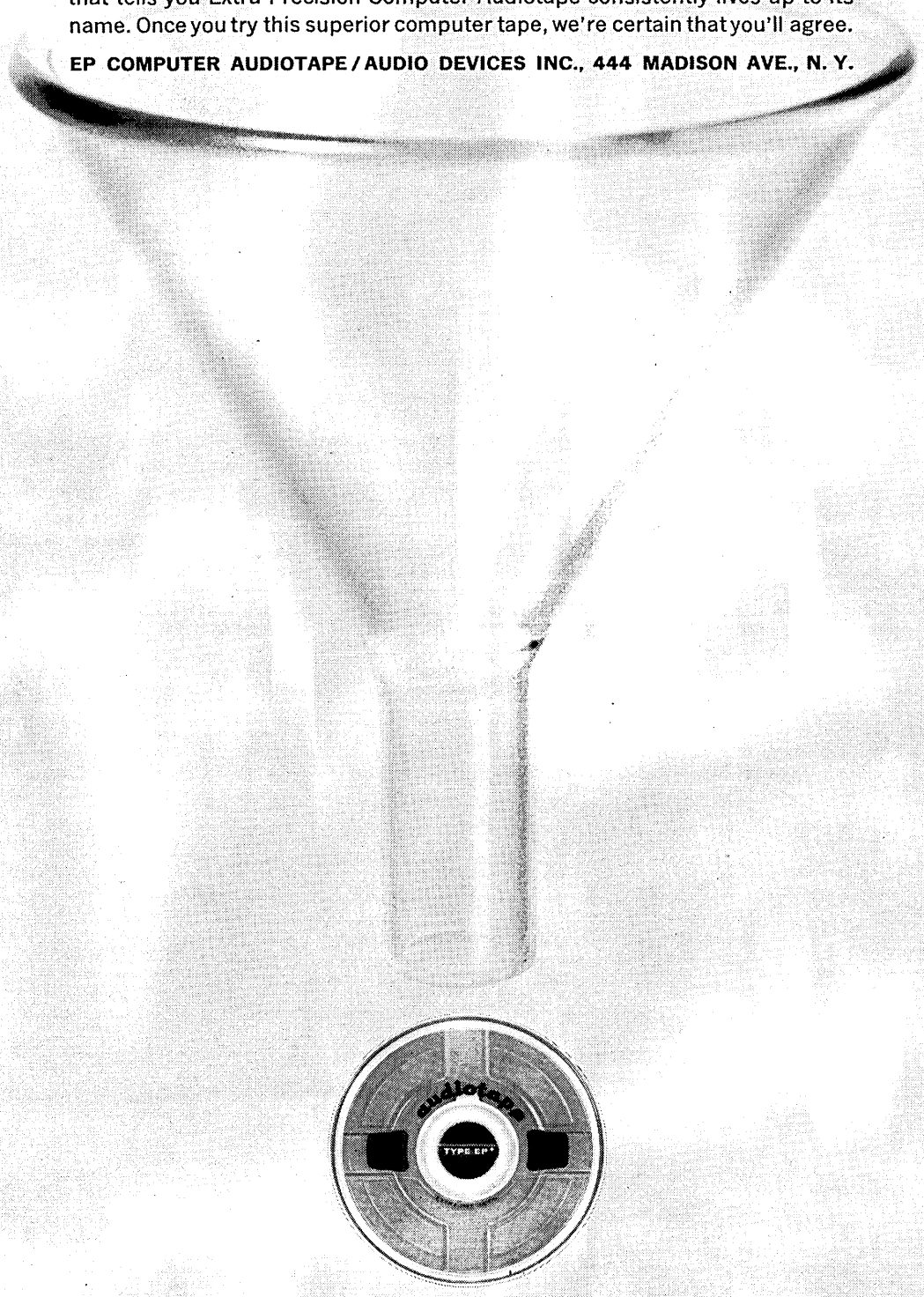
Burroughs Corporation

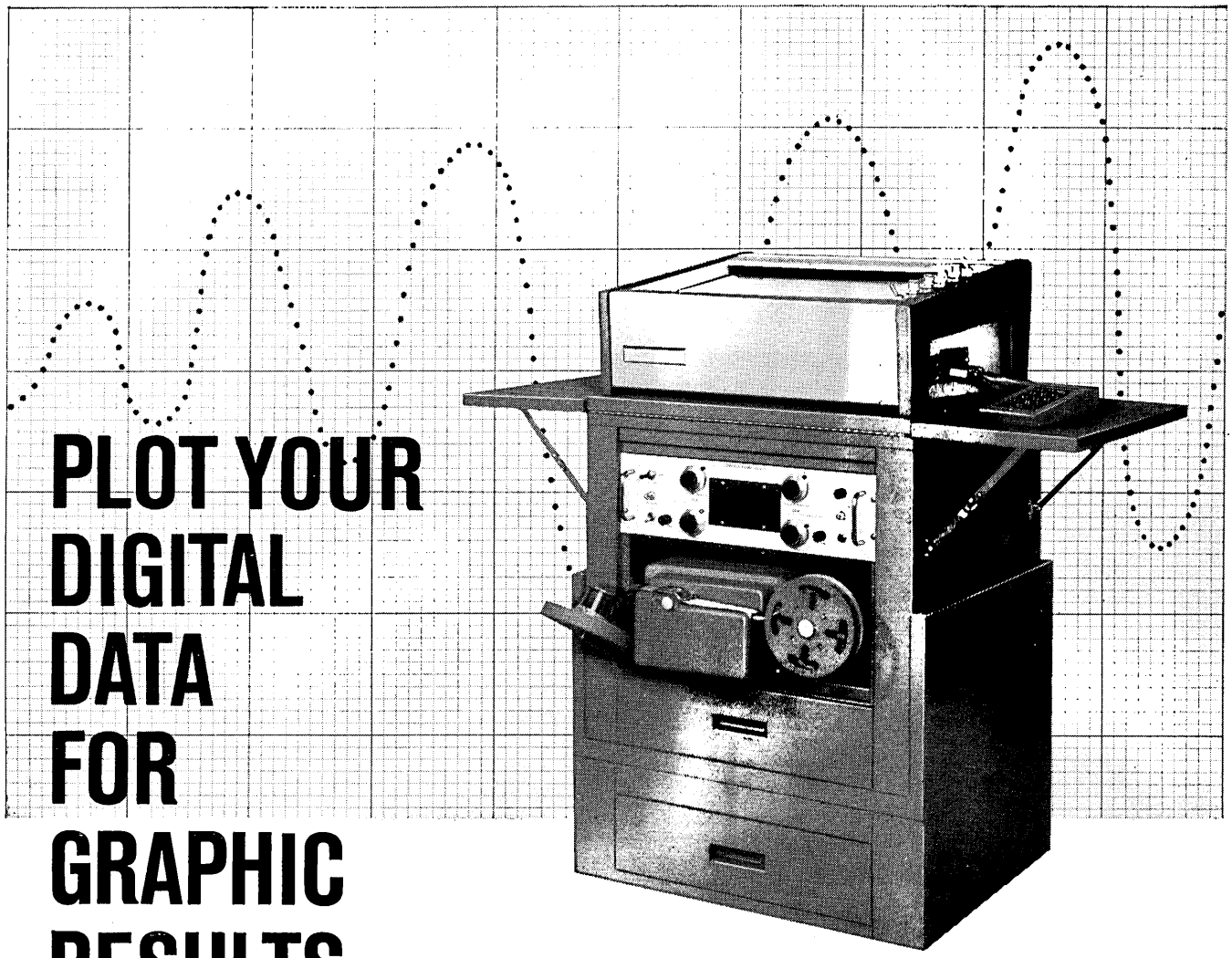
so many business problems end with Burroughs B

WHAT GOES INTO A SUPERIOR COMPUTER TAPE?

Many things, tangible and intangible, go into the making of EP Computer Audiotape. On the tangible side, only the finest materials and equipment—meticulously selected and constantly tested—are used in producing this extra precision computer tape. In addition, every reel is 100% checked on specially-designed Automatic Certifiers to insure that each of the 112 million test pulses (161 million on high density tapes) reproduce properly . . . Less tangible but just as important are our years of experience in this exacting field. Experience that tells you Extra Precision Computer Audiotape consistently lives up to its name. Once you try this superior computer tape, we're certain that you'll agree.

EP COMPUTER AUDIOTAPE / AUDIO DEVICES INC., 444 MADISON AVE., N. Y.





PLOT YOUR DIGITAL DATA FOR GRAPHIC RESULTS ... *WITH ACCURATE, LOW COST EAI SERIES 3100* DATAPLOTTER

Outstanding Features of the EAI Series 3100 DATAPLOTTER include:

- System accuracy up to 0.175% of full scale.
- Punched card, tape or keyboard input.
- Plotting speeds up to 80 points per minute.
- Provisions for "off-board" origin.
- Compact, self-contained single cabinet design. Punched card reader external.
- Adaptable to any computer system.
- Accepts analog as well as digital inputs.
- Automatic off-scale point rejection.

The full potential usefulness of digital computer calculations is seldom fully realized. Because of the excessive cost of hand plotting, the benefits of graphic displays of digital data are usually sacrificed. Now, with the DATAPLOTTER 3100, this lost dividend can be recovered.

The quickest and easiest way to analyze the voluminous output of digital computers is in the form of easy-to-read x-y charts. With graphs plotted on the EAI Series 3100 [11"x 17"] DATAPLOTTER, digital information achieves new accessibility and convenience for computer data users. This new low-cost digital plotter enables project groups to set up independent data interpretation operations utilizing information obtained from central computer services. Experience shows that this equipment will deliver plots more rapidly and accurately and free valuable man-hours for engineering and management.

Some of the applications in which the EAI Series 3100 DATAPLOTTER is extremely valuable include Frequency Response Curves • Fluid Flow Charts • Stress Analysis • Aerodynamic Studies • Chemical Reaction Rates • Missile Trajectories and Orbits • Thrust Studies • Flight Data • Sales and Market Analyses.

EAI Series 3100 DATAPLOTTER® can save you money and improve your engineering and computer services. For information on this new equipment, write to Department CA-22.

EAI ELECTRONIC ASSOCIATES, INC. *Long Branch, New Jersey*

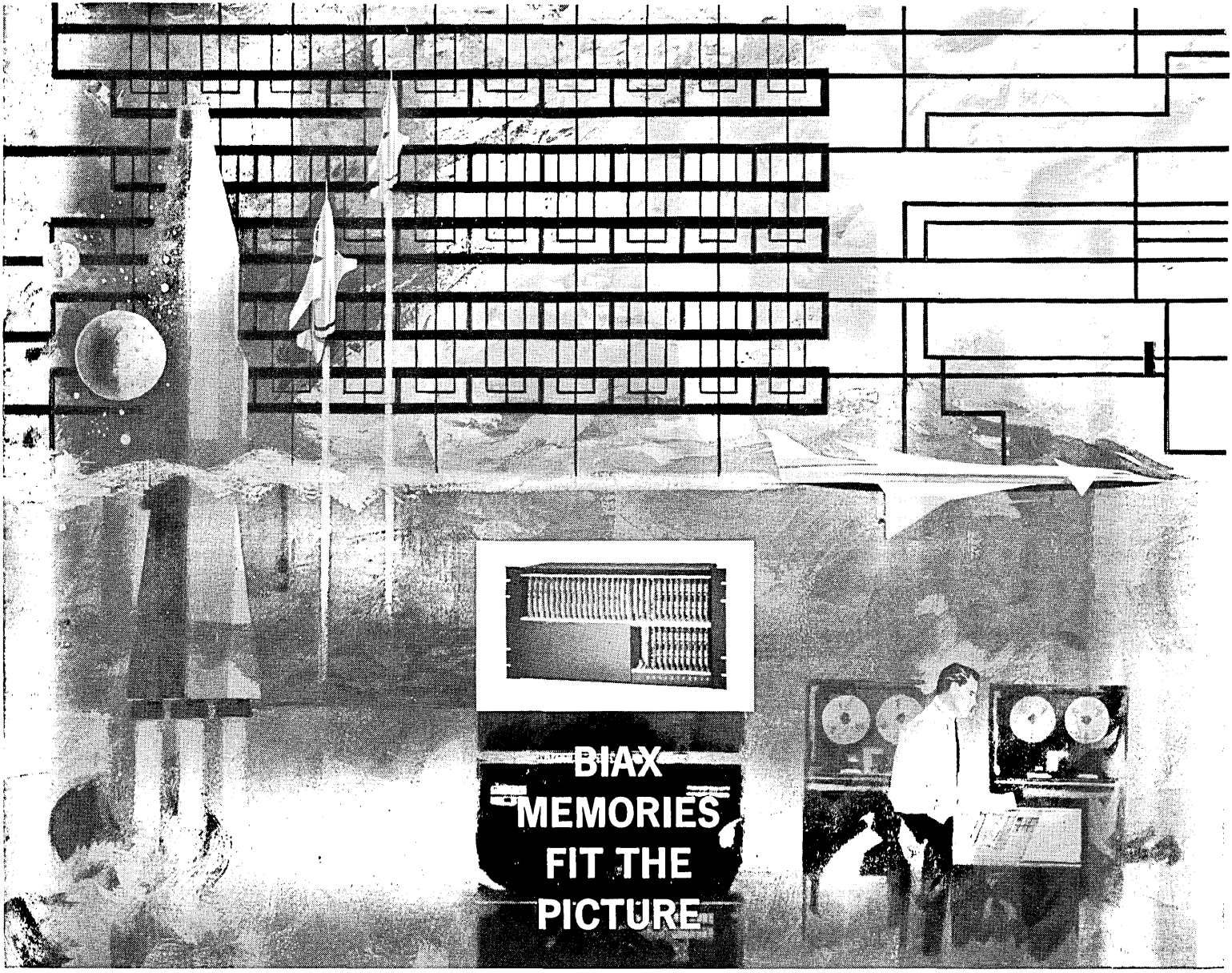
THE COMPUTER DIRECTORY AND BUYERS' GUIDE, 1962

Table of Contents

Some last-minute information, as addenda to the rosters and surveys, has been inserted on the following pages:

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.



Aeronutronic is now delivering the highest speed instruction memories for general use. Proved systems are available in standard line, built to special requirements or packaged for larger memories or aerospace installations.

BIAX memories improve the performance of ground-based and aerospace data systems that must operate reliably at very fast repetitive read cycling rates. BIAX memories also enhance reliability in applications in which non-destructive readout, low power level, and operation over extended temperature ranges are significant design factors.

BIAX memories find ready usage in—• Program, instruction, and statistics storage • Micro-programming techniques • Associative memories • Automatic check-out equipment • Digital simulators and training devices • Display and character generators.

The standard line of BIAX instruction memories offers modules ranging in size from 128 up to 1024 words for ground equipment. BIAX memories can also be customized to fit individual system design requirements not only in the area of speed performance but in capacity and packaging concepts as well.

Miniaturized aerospace BIAX memories are designed to withstand extreme shock, vibration and temperature environments. In this field, non-destructive readout, guaranteed security of stored data and low operating power levels are vital characteristics BIAX memories can add to your system. *For technical brochure, specific application information, or for price and delivery details contact: BIAX Memories Department MX.*

Typical Specifications for Standard BIAX memories

- Up to 1024 words
- Up to 36 bits per word
- Random Access—Non-destructive Readout
- Read Cycle time—1 μsec
- Access Time—0.3 to 0.4 μsec
- Operating Temperature—0°C to 50°C
- Loading—from manual entry to on-line operation up to 200 KC
- Power—less than 50 watts

Ford AERONUTRONIC

DIVISION • FORD MOTOR COMPANY • NEWPORT BEACH, CALIFORNIA

ROSTER OF ORGANIZATIONS IN THE COMPUTER FIELD

(Cumulative, information as of May 1, 1962)

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 services in the computer field; and organizations supplying components 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. In cases where we do not have complete information, we put down what we have.

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

Abbreviations

The key to the abbreviations follows:

Activities
- Ma Manufacturing activity
- Sa Selling activity
- Ra Research and development
- 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) / 62: information furnished in 1962 / 61; information furnished in 1961 / 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? _____
   Telephone number? _____
4. Types of computers, data processors, accessories, components, services, etc., that you produce or offer? _____
5. Types of activity that you engage in:
   ( ) Research
   ( ) Manufacturing
   ( ) Selling
   ( ) Consulting
   ( ) Other (please explain) _____
6. Approximate number of your employees? _____
7. Year organization was established? _____
8. Listings for two of your executives:
   Name & Title _____
   Name & Title _____

This data supplied by _____
Title _____ Date _____

ROSTER

A

Accurate Electronics Corp., P.O. Box 935A, Elyria, Ohio / ENdicott 5-1211 / *C 61
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 61
Potentiometers, linear, non-linear, precision, subminiature, micro-miniature; trimmers, conductive plastic / RMSa Ms(160) Se(1954) Ic

ACF Electronics Div., ACF Industries Inc., 48 Lafayette St., Riverdale, Md. / WArfield 7-4444 / *C 62
Special purpose analog computers, test equipment computers, magnetic clutches, simulators, digital data transmission equipment / 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 62
Dispersions of colloidal graphite, molybdenum di-sulfide, and other solids used for surface and conductive coatings / RMSCa Ms(100) Le(1908) Ic

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

Adage, Inc., 292 Main St., Cambridge 42, Mass. / UNiversity 4-6620 / *C 61
Special purpose ambilogical (i.e., combining analog operations and digital logic) computers; high speed, all semiconductor analog-digital converters / MSa Ms(125) Se(1957) DAIc

ADB Institutet (Scandinavian Automatic Data Processing Institute), Chalmers University of Technology, Gibraltargatan 5, Gothenburg S, Sweden / *C 61
University training in automatic data processing. Consulting, programming, coding, and running problems on Alwac III E (Wegematic 1000) computers for industries in Scandinavia / RCPa Ss(25) Se(1957) Dc

Addo-x, Inc., 300 Park Ave., New York 22, N.Y. / PLaza 5-5420 / *C 62
Tape punches and readers; posting machines with read-in and read-out, intercouplers / S(sole distributor for Swedish Parent Co.)a Ms(70) Me(1937) Ic

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 Information Systems Co. (AIS), 3002 Midvale Ave., Los Angeles 34, Calif. / GR 8-9801 / *C 61
Consulting services, applications, program management, and research / RCa Ss(12) Se(1960) DIc

Advanced Scientific Instruments, Inc., 5249 Hanson Court, Minneapolis 22, Minn. / KE 3-2501 / *C 62
General purpose computers / RMSC, developing programs for computers (ASI only)a Ms(65) Se(1960) DAIc

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, Div. of Telex -- name changed to Telex/Aemco, a Div. of Telex, Inc., which see

Aeronutronic, a Div. of Ford Motor Co., Ford Rd., Newport Beach, Calif. / ORiole 5-1234 / *C 61
Complete BIAX memory systems; family of message entry and display systems; magnetic drum memory systems; large high-speed random access units; solid state printed circuit boards; complete military systems for command and control; airborne digital computers / RMSa Ls(2200) Se(1956) DICc

Aerovox Corp., Bellville Ave., New Bedford, Mass. / WYman 4-9661 / *C 62
Capacitors -- all types, resistors, jacks, switches / RMSa Ls(3000) Le(1922) Ic

Aircraft Armaments, Inc., Industry Lane, Cockeysville, Md. / NOrmandy 6-1400 / *C 62
Special purpose computers, simulators, training systems, telemetering systems, and test equipment for land, sea, and air based on custom specifications / RMSa Ls(800) Me(1950) DAIc

AiResearch Mfg. Co. of Arizona (a div. of The Garrett Corp.), 402 S. 36th St., Phoenix 34, Ariz. / BR 5-6311 / *C 62
Pneumatic analog computers / RMSa Ls(3600) Me(1950) Ac

Airflyte Electronics Co., 535 Avenue A, Bayonne, N.J. / HEmlock 6-2230 / *C 61
Analog-digital converters, commutating devices for sampling, programming, etc. / RMSa Ms(75) Me(1948) DAIc

Airpax Electronics, Inc., 6601 N.W. 19th St., Fort Lauderdale, Fla. / LUdlow 3-6160 / *C 62
Differential, analog computer type magnetic amplifiers; complete line of servo, data logging and control systems; choppers, circuit breakers, transformers and telemetry equipment / RMSa Ms(500) Me(1947) Ic

Aladdin Electronics, a Div. of Alladdin Industries, Inc., 703 Murfreesboro Rd., Nashville 10, Tenn. / CHapel 2-3411 / *C 62
High frequency transformers; pulse, wide-band, duraclad. Ferrite-cored inductors. I.F. transformers. Micromodular and microelement components / RMSa Ls(700) Le(1908) Ic

Alden Products Co., 1140 N. Main St., Brockton, Mass. / JUniper 3-0160 / *C 62
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 / RMSa Ms(300) Le(1930) Ic

Alexandria Div., American Machine & Foundry Co., 1025 N. Royal St., Alexandria, Va. / KIng 8-7221 / *C 61
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

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 Co., 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

Allied Control Company, Inc., 2 East End Ave., New York 21, N.Y. / BUtterfield 8-7403 / *C 62
Relays, subminiature toggle and push button switches, solenoid valves / RMSa Ls(935) Me(1938) Ic

Allied Research Associates, Inc., 43 Leon St., Boston 15, Mass. / GArrison 7-2434 / *C 62
Service on IBM 1620 digital computer and a GPS high-speed analog computer; generalized research and development in the physical sciences / RMCa Ms(230) Me(1951) DAIc

Allies' Products Corp., P.O. Box 188, Kendall 56, Fla. / CEdar 5-5424 / *C 61
Precision carbon-deposited resistors / RSa Ss(10) Se(1951) Ic

Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif. / OSborne 5-0311 / *C 61
General purpose digital computer (ALWAC III-E and IV), computer component parts, card converters, universal tester, magnetic tape transport, magnetic tape buffer, magnetic drums, paper tape console, data reduction and input-output equipment / RMSCa Ms(100) Se(1952) DIc

Amber & Amber, 19925 Schaefer Rd., Detroit 35, Mich. / Area code 313, 864-1613 / *C 62
Automation systems, creative writing in science and engineering / Ca ?s ?e Ic

American Bosch Arma Corp., Roosevelt Field, Garden City, N.Y. / - / *C 62
Digital and analog computers, packaged computer circuits, high-speed printers, photoelectric readers, computer test equipment and fire control equipment / MSa Ls(8651) Le(1919) DAICc

American Data Machines, Inc., 7 Commercial St., Hicksville, N.Y. / - / *C 62
Portable card punch; converter, card to paper tape; data recording and collating equipment / RMSCa Ms(75) Se(1961) Ic

American Data Services, Inc., 2221 S.W. Fifth Ave., Portland 1, Ore. / CApitol 6-6851 / *C 62
System design, programming, data processing and machine services provided business, governmental and scientific groups. Computers used are Burroughs 205 and IBM 1401 / Ca Ss(20) Se(1960) Ic

American Hydromath Corp., 24-20 Jackson Ave., Long Island City 1, N.Y. / EX 2-4242 / *C 62
Mechanical and electro-mechanical analog computers; special purpose slide rules, quality control computers, mechanical nomographs / RMSCc Ss(10) Me(1940) Ac

American Lava Corp., Manufacturers Rd., Chattanooga 5, Tenn. / AMherst 5-3411 / *C 62
Technical ceramics, substrates, metal ceramic assemblies. Special capacitors, with or without encapsulation or leads / Ma Ls(1200) Le(1902) Ic

American Research and Manufacturing Corp., 920 Halpine Ave., Rockville, Md. / HA 7-7116 / *C 62
Electronic components, preparation of manuals and training aids, electromechanical design services / RMa Ms(75) Se(1954) Ic

American Systems Inc., 1625 East 126th St., Hawthorne, Calif. / PL 6-0301 / *C 61
Design, production of digital systems, subsystems, and peripheral equipment; information processing research and service; application of modern analytical techniques to problems of government, science and industry / RMCG(electronic systems design)a Ms(100) Se(1960) DAISCc

American Telephone and Telegraph Co. and Associated Bell System Telephone Companies, (Hq.) 195 Broadway, New York 7, N.Y. / - / *C 62
Complete communications services for data processing systems / (service)a Ls Le Ic

The American University - EDPL, 1901 F St. N.W., Washington 6, D.C. / STerling 3-4940 / *C 62
Research; teaching; training; consulting. LGP-30; RPC-4000; RPC-9000 / RC(teaching and training)a Ss(8) Se(1960) Ic

AMP, Inc., Harrisburg, Pa. / JOrdan 4-0101 / *C 62
Solderless terminals, connectors, patchcord programming systems and pinboards, computer power supplies / Ma Ls(over 3000) Me(1941) Ic

Amperex Electronic Corp., 230 Duffy Ave., Hicksville, L.I., N.Y. / WElls 1-6200 / *C 62
Electron tubes, semiconductors, circuit blocks / MSa Ls(600) Le(1927) Ic

Ampex Computer Products Co., 9937 Jefferson Blvd., Culver City, Calif. / UPton 0-8571 / *C 61
Tape handlers, ferrite magnetic cores, wired core arrays and stacks, core buffer memories, solid state memory systems / RMSa Ls(570) Me(1948) 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 Magnetic Tape Products, a Div. of Ampex Corp., Opelika, Ala. / SH 5-7643 / *C 61
Ampex computer tape, accessories, storage containers, reels, and shipping material / RMSa Ms(275) Me(1946) Ic

Amphenol-Borg Electronics Corp., Broadview, Ill. / - /
Connectors and potentiometers for computer applications; all types / RMSa Ls Se(1958) Ic

Amphenol Connector Div., Amphenol-Borg Electronics Corp., 1830 S. 54th Ave., Chicago 50, Ill. / BIshop 2-1000 / *C 62
Standard, miniature, and microminiature connectors. Intercon printed circuitry. Cable assemblies / RMSa Ls(2500) Le(1932 as American Phenolic) Ic

Amplifier Corp. of America, 398 Broadway, New York 13, N.Y. / WOrth 6-2929 / *C 62
Tape recorders, tape decks, transistorized electronic modules and plug-in boards, transistorized power supplies, transistorized amplifiers, flutter meters, demagnetizers; instruments to order / RMCPa Ss(25; as an affiliate of Keystone Camera Co., Inc., additional personnel and facilities readily available) Me(1936) Ic

ANADEX INSTRUMENTS INC., 7617 Hayvenhurst Ave., Van Nuys, Calif. / - / *C 62
Tape perforating punches, digital displays, digital counters and data processing equipment / RMSa Ss(25) ?e DIc

Analogue Controls, Inc., 200 Frank Rd., Hicksville, L.I., N.Y. / OVerbrook 1-7300 / *C 62
Precision potentiometers to .002% linearity, linear and functional; single and multiple turn; single and multi-gang; 1/2" diameter / RMa Ms(110) Se(1954) Ic

Andersen Laboratories Inc., 501 New Park Ave., West Hartford 10, Conn. / ADams 6-1281 / *C 62
Digital delay lines, transistorized memory devices, magnetostrictive delay lines, ultrasonic delay lines, electromagnetic delay lines / RMSa Ms(140) Me(1951) DSc

ANelex Corp., 150 Causeway St., Boston 14, Mass. / RIchmond 2-1720 / *C 62
High-speed printers: ANelex Series 4 Print Station, airborne printer, special purpose and militarized printers. ANelex printer training program / RMSa Ms(450) Se(1952) Ic

Applied Data Research, Inc., 759 State Rd., Princeton, N.J. / 609-WAlnut 1-8550 / *C 62
Consulting and programming on all electronic digital computing systems / RCPa Ss(30) Se(1959) Ic

Applied Dynamics, Inc., 2275 Platt Rd., Box 612, Ann Arbor, Mich. / NO 2-4493 / *C 62
Analog computers, general and special purpose, and associated components / MSa Ss(15) Se(1957) AI(computation service)c

AR&DA Div. of All American Engineering Co., 135 Main St., Belleville 9, N.J. / - / *C 62
Custom designed test equipment, instrumentation, controls, power supplies, pulse amplifiers, special purpose analog computers / RMSCa Ss(15) Se(1956) AICc

Arenberg Ultrasonic Lab., Inc., 94 Green St., Jamaica Plain 30, Mass. / JAmaica 2-8640 / *C 62
Ultrasonic delay lines, ultrasonic test equipment / RMa Ss(25) Me(1950) Ic

ARIES CORP., 7722 Morgan Ave. South, Minneapolis 23, Minn. / - / *C 62
Automatic programming techniques, systems engineering, operations analysis, reliability / Ca Ss(10) Se(1962) Ic

Arkay Engineering, Inc., 11800 W. Olympic Blvd., Los Angeles 64, Calif. / - / *C 62
Engineering and consulting services. Experienced in designing and shipping hardware. Semiconductor circuits, data systems, automatic checkout and control, complete computers, telemetry, instruments, value analysis, proposals / Ca Ss(12) Me(1948) Ic

Arma Division, American Bosch Arma Corp., Old Country Rd., Garden City, N.Y. / PIoneer 2-2000 / *C 61
Analog, digital, transistorized and miniaturized computers for application in ships, manned aircraft, missiles and ground environment / RMSa Ls(6000) Le(1919, corporation) 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 systems 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. & West St., Marengo, Ill. / (Chicago) ANdover 3-6300 / *C 62
Magnetic materials / MSa Ls(850) Me(1936) Ic

Asbjorn Habberstad A/S, Konowsgt. 8, Oslo, Norway / Oslo 67.47.80 / *C 61
Management consultants specializing in management science and all problems of data processing with punch card machines or electronic computers / Ca Ms(70) Me(1940) DAc

Assembly Producers, Inc., 75 Wilson Mills Rd., Chesterland, Ohio / HA 3-3131 / *C 62
Contact meter relays, panel meters, "packaged controls", special electronic controls, electrically actuated controls, automatic control equipment / RMSCa Ms(300) Me(1945) DACc

Associated Sales Analysts, Inc., 220 West 42nd St., New York 36, N.Y. / - / *C 62
Punched card and magnetic tape electronic data processing / C(data processing)a Ms(200) Se(1952) Ic

Association of Data Processing Service Organizations, 1000 Highland Ave., Abington, Pa. / 215-659-4300 / *C 62
A non-profit association; symposium, literature. General association services to owners and managers of data processing service centers / Ca Ss(1) Se(1960) Ic

Astrometrics, Inc., 1108 Santa Barbara St., Santa Barbara, Calif. / WOodland 5-0931 & 965-0406 / *C 62
Electronic commutators, decommutators, FM receivers (telemetry), low-level switches and choppers, multiplexers, demultiplexers, Servo-sound high-fidelity audio systems, Articulator audio system (intelligence improving receiving equipment), no-moving parts recorder and playback system, low-level amplifiers, etc., automatic data processing systems, telemetry systems, amplitude probability-density analyzer system / RMa Ss(12) Se(1957) DAIc

Astron Corp., 255 Grant Ave., E. Newark, N.J. / HUmboldt 2-7800 / *C 62
Various types of paper capacitors, electrolytic capacitors, solid tantalum capacitors and fixed dielectric and R.F. interference noise suppression filters / Ma Me(450) Me(1950) Ic

Atlas Precision Products Co. Div. of Prudential Industries, Inc., 3801 Castor Ave., Philadelphia 24, Pa. / JEfferson 5-3700 / *C 62
Mechanical analog computers for fire control, radar, etc.; geared mechanisms, servos, etc.; analog-to-digital converters, sub-assemblies; precision gears, differentials, bearings / Ma Ms(200) Me(1929) AIc

Audio Devices, Inc., 444 Madison Ave., New York 22, N.Y. / PLaza 1-6640 / *C 62
Magnetic recording tape for use in computers, telemetry, seismography, automation / RMSa Ms(330) Me(1937) Ic

Audio Instrument Co., Inc., 135 West 14 St., New York 11, N.Y. / ORegon 5-7820 / *C 62
Analog time delay devices; logarithmic converters / RMSa Ss(9) Me(1949) Ic

Auerbach Corporation, 1634 Arch St., Philadelphia 3, Pa. / LOcust 3-7377 / *C 62
Consulting services in systems engineering, computer programming, business information systems, product and market planning, programmed teaching, computer analysis (standard EDP reports) / Ca Ms(100) Se(1957) DAIc

Automated Accounting Center of Connecticut, 7 Field St., Waterbury, Conn. / PL 6-8389 / *C 62
Data processing services. Equipment: Bendix G-15 computer, NCR sorter-reader, sorter-coupler, adding machine punches, magnetic tape accessories, Flexowriters / SCa Ss(10) Se(1961) Dc

Automated Precedures Corp., 386 Park Ave. S., New York, N.Y. / MU 5-7276 / *C 62
IBM 1401 - 1410; Univac file computer; Friden; all periphery equipment. Subsidiaries: Cyber-

netics Systems Corp. -- research, consulting; Payroll Procedures Corp. -- Univac payroll service; Computer Management Corp. -- computer equipment leasing; N.Y. Tabulating -- IBM Data Processing Center / RSC(service bureau, data processing center)a Ms(55) Se(1960) DIc

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 Co. -- name changed to Automatic Electric Sales Corp., which see

Automatic Electric Sales Corp., Northlake, Ill. / 345-7111 / *C62
Relays and rotary stepping switches for industrial control, and control systems / RMSa Ls(8500) Le(1891) Ic

Automation Consultants, Inc., 155 Fifth Ave., New York 10, N.Y. / ORegon 4-6660 / *C 61
Handbooks; monthly updating services; newsletter; publisher of "Business Automation News Report" / RCa Ss(12) Se(1954) Ic

Automation Engineers, 344 W. State St., Trenton 8, N.J. / OWen 5-2628 / *C 62
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 / RMSCa Ss(20) Me(1942) ICMc

Automation Management, Inc., 25 Brigham St., Westboro 95, Mass. / FO 6-5377 / *C 62
Performance computer; management and automation engineering; contractors of integrated processes / RSCa Ss(5) Se(1955) CIc

Autonetics Industrial Products, Operating Div. of Autonetics, a Div. of North American Aviation, Inc., 3400 East 70th St., Long Beach 5, Calif. / MEtcalf 4-3220 / *C 62
Recomp general purpose digital computers and peripheral equipment including: Recomp II, medium-scale general purpose solid state digital computer; Recomp III, small-scale general purpose solid state digital computer; Facitape Console, high speed tape punch/reader system; VersaTape, off-line tape preparation unit; Recomp Magnetic Tape memory system; Recomp X-Y Digital Plotter; Recomp Tape Card adapter unit; also Navapi, precision voltage and phase test instrumentation equipment; Nifte, neon indicating factory test equipment for continuity checkout of complex wiring systems and equipment / RMSa Ls(32,000) Me(1958) DISCc

B

Babcock Electronics Corporation, 1640 Monrovia Ave., Costa Mesa, Calif. / LIberty 8-7705 / *C 61
Remote control systems, receivers, transmitters, encoders, decoders and signal generators / RMSa Ls(800) Me(1947) Ic

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio / GL 1-4600 / *C 62
Automatic control equipment, special purpose computers, data processing equipment, analog and digital information systems / RMSa Ls(2000) Le(1916) DACc

Baird-Atomic, Inc., 33 University Rd., Cambridge 38, Mass. / UNiversity 4-7420 / *C 61
Spectrochemical, electronic and radioisotope instrumentation for analysis and control; electronic tubes, proportional counters, electronic counters, sorting and counting controls, scientific instruments, analog devices, servomechanisms, transistors, print readers / RMSa Ls(700) Me(1936) Ic

Ballastran, Div. of Telex Inc., 1701 N. Calhoun St., Ft. Wayne 7, Ind. / E-9602 / *C 61
Pulse transformers, speciality transformers / Ma Ms(150) Me(1946) Ic

Battelle Memorial Institute, 505 King Ave., Columbus 1, Ohio / - / *C 62
Digital and analog research in systems engineering, servomechanism, automatic control machinery, and automatic materials handling machinery / Ra Ls(2200) Le(1929) DAISCMc

Beckman Instruments, Inc., Berkeley Div., 2200 Wright Ave., Richmond, Calif.; Helipot Div., 2500 Harbor Blvd., Fullerton, Calif.; Systems Div., 2400 Harbor Blvd., Fullerton, Calif. / Berkeley Div. -- LAndscape 6-7730; Helipot Div. and Systems Div. -- TRojan 1-4848 / *C 62
Instruments, systems and components for analysis, measurement and control: amplifiers; automatic test and control equipment; printed circuit boards; printed circuits, including arithmetical, logical and plug-in types; analog computers and computer components and services; all types of information converters; electronic counters; high-speed multi-channel data processing systems, recording and reduction equipment; delay lines, dials; potentiometers; Hall Effect devices; high-speed printers; servomechanisms; telemetering systems; test equipment, translating equipment; systems components; missile checkout systems; and military study contracts in areas of computing instrumentation and data processing / RMSGa Ls(5000) Me(1935) DAISCc

Bell Aerosystems Co., P.O. Box 1, Buffalo 5, N.Y. / - / *C 62
IBM 607, 1401, 704 and 7090 / RMa Ls(3800) Se(1960) DAc

Bendix Computer Div., 5630 Arbor Vitae St., Los Angeles 45, Calif. / ORchard 0-3640 / *C 62
G-15 and G-20 general purpose computing systems; G-21 special purpose miliary system / RMSa Ls Se(1952) DIc

Bendix Corp., Bendix-Pacific Division, 7250 Laurel Canyon, N. Hollywood, Calif. / POplar 5-1280 / *C 61
T/M ground stations, data acquisition, area monitoring, computer buffering and digital transmission systems; analog-digital converters, data processing, format, conversion and translation equipment; input transducers with digital outputs for temperature, pressure, time, date, speed, direction and frequency; logic modules / RMSa Ls(3550) Le(1915, company; 1937, this division) DCIc

The Bendix Corp., Eclipse-Pioneer Div., Teterboro, N.J. / ATlas 8-2000 / *C 62
Synchros, servo motors and motor generators, gyros and related components for servo-mechanisms; automatic controls, analog-to-digital converters, mechanical and electronic integrators, resolvers, Airborne Digital Computer, analog and digital modules, memory storage devices, data processing equipment, visual output indicators, automatic check out systems / RMSa Ls(10,000) Le(1916) DAIc

Bendix Corp., Industrial Controls Section, 21820 Wyoming Ave., Detroit 37, Mich. / JO 6-9800 / *C 62
Numerical control systems for machine tools, circuit cards, card testers, servo drives / MSa Ms(300) Se(1957) Ic

BENDIX CORP., RESEARCH LABORATORIES DIV., Southfield (Detroit), Mich. / KEnwood 7-3300 / *C 62
Research in analog, digital, and hybrid techniques; special purpose analog and digital computing and control systems / RCa Ls(700) Le(1929) DASCMc

Benson-Lehner Corp., 1860 Franklin St., Santa Monica, Calif. / EXbrook 3-9921 / *C 62
Data reduction, handling, and translating equipment: record readers (oscillographic, film, etc.), data storage and retrieval machines; data display devices including line drawing plotters, point and symbol plotters, high precision digital plotters, analog plotters, special readers including map and blue print readers, digital microscopes and comparators; shaft rotation-to-digital converters; inventory and memory systems; electrically controlled typewriters, photo instrument equipment including high speed cameras, tracking and strike cameras, take-off cameras and associate equipment. Plotting equipment with inputs from computers, magnetic tape and cards; film and oscillograph readers with computer compatible output; service bureau on all the above / RMSCa Ms(250) Se(1950) DAc

Berkeley Division of Beckman Instruments, Inc., 2200 Wright Ave., Richmond, Calif. / LA 6-7730 / *C 62
General purpose, electronic analog computers, as well as operational amplifiers, function generators, computing resistors and capacitors in oven, electronic multipliers and resolvers, patchbays and patchboard and digital control systems / RMSCa Ls(600) Me(1946) DAIc

Edmund C. Berkeley and Associates, 815 Washington St., Newtonville 60, Mass. / DEcatur 2-5453 or 2-3928 / *C 62
Courses by mail in automatic computing machinery, mathematics, and other scientific subjects / PCa Ss(3) Me(1948) Dc(affiliated with Berkeley Enterprises, Inc.)

Berkeley Enterprises, Inc., 815 Washington St., Newtonville 60, Mass. / DEcatur 2-5453 or 2-3928 / *C 62
Electric brain construction kit for educational purposes; Brainiac. Publisher of "Computers and Automation" and other publications. Small robots; robot show-stoppers; Relay Moe (tit-tat-toe machine) / RMSa Ss(10) Se(1954) Dc(affiliated with Edmund C. Berkeley & Associates)

Ernest E. Blanche & Associates, Inc., Kensington, Md. / - / *C 62
Tape 1401 and complete IBM data processing unit / C(service bureau for data processing)a Me(75) Se(1955) Dc

Bonner & Moore Associates, Inc., 6910 Fannin St., Houston 25, Tex. / - / *C 62
Consulting and research in operations research, economics, systems engineering, process control, computer applications and programming (proprietary linear programming and general data reduction packages for several machines) / RCPa Ss(20) Se(1956) DASc

Booz, Allen Applied Research, Inc., 135 LaSalle St., Chicago 3, Ill. (also Glenview, Ill. and Washington, D.C.) / FR 2-1728 (Chicago); OLiver 6-1400 (Washington, D.C.) / *C 61
Technical consulting in operations research; research and development in reliability, applied statistics, electromechanisms, instrumentation, systems analysis, electronics and communications and physics / RCa ?s ?e Ic

Booz, Allen & Hamilton, 135 S. LaSalle St., Chicago 3, Ill. (offices also in New York, Washington, D.C., Cleveland, Detroit, San Francisco, Los Angeles, and Seattle) / FInancial 6-1900 / *C 61
Management consultants; technical services in electronic and automatic data processing for totally integrated management controls systems for industry, commerce, government, and institutions / CPa Ls Le(1914) Ic

Borg-Warner Controls, Div. of Borg-Warner Corp. (formerly BJ Electronics), 3300 Newport Blvd., Santa Ana, Calif. / KImberly 5-5581 / *C 61
Miniature magnetic tape recorders; radio frequency test instrumentation; variable reluctance transducers and accelerometers / RMSa Ms(330) Me(1945) Ic

Bourns, Inc., Trimpot Div., 1200 Columbia Ave., Riverside, Calif. / - / *C 62
Trimpot potentiometers, adjustment and precision types as well as relays / Ma Ls(1300) Me(1948) Ic

Bowmar Instrument Corp., 8000 Bluffton Rd., Ft. Wayne, Ind.; TIC Div. of Bowmar, Acton, Mass.; Acton Laboratories, Inc. (subsidiary), Acton, Mass.; TIC of Calif. (subsidiary), Newbury Park, Calif. / - / *C 62
Precision servo components and assemblies, counters, electronic devices, measurement and test instruments / RMSa Ls(1000, including subsidiaries) Me(1951) Ic

Brand - Rex Division, American Enka Corp., 31 Sudbury Rd., Concord, Mass. / EMerson 9-9630 / *C 62
Wire, cable, electrical insulating materials / RMSa Ls(1000) Le(1920) Ic

William Brand -- Rex Division, American Enka Corp. -- name changed to Brand -- Rex Division American Enka Corp., which see

Richard D. Brew & Co., Inc., 90 Airport Rd., Concord, N.H. / CA 5-6605 / *C 62
Delay lines: lumped constant, distributed constant, ultrasonic. High voltage pulse cable connectors, environmental test service / RMSa Ms(150) Me(1945) Ic

The Bristol Co., P.O. Box 1790 CAG, Waterbury 20, Conn. / PLaza 6-4451 / *C 62
Electronic and potentiometric recording, indicating, controlling, signalling; alarm and telemetering instruments for standard and special functions; components including choppers, high speed relays, capsular elements, remote positioners, pressure switches and transducers; miniature standard and special socket screws; recording papers; data logging equipment / RMSa Ls(over 1000) Le(1889) Ic

Broadview Research Corp., 1811 Trousdale Dr., Burlingame, Calif. / DIamond 4-7625 / *C 61
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

BRYANT COMPUTER PRODUCTS, DIV. OF EX-CELL-O CORP., 850 Ladd Rd., Walled Lake, Mich. / MArket 4-4571 / *C 62
Manufacture magnetic drums and disc files, complete memory systems, and related circuits / RMa Ms(250) Se(1952) Ic

Budd Electronics, 43-22 Queens St., Long Island City 1, N.Y. / - / *C62

Data retrieval systems, data display systems, special purpose computers, custom designing of logic circuitry, data encoders and decoders, storage systems, cathode ray tube displays and print-out units. Specialists in weather radar data processing / RMa Ls(900) Se(1960 as a division of The Budd Co.) DAIc

Bull Corp. of America, 521 5th Ave., New York 17, N.Y. / UYkon 6-9966 / *C 61
Punched card equipment, data processing systems, electronic gamma computers / MA ?s Se(1960) Ic

J. H. Bunnell & Co., 81 Prospect St., Brooklyn 1, N.Y. / ULster 8-0100 / *C 62
Electric tape winders, punched tape readers / Ma Ms(60) Le(1878) Ic

The Bureau of National Affairs, Inc., 1231 24th St., N.W., Washington 7, D.C. / FE 3-6800 / *C 61
Reports on electronic data processing / publishing Ms(300) Me(1933) Ic

Burlingame Associates, Ltd., 510 S. Fulton Ave., Mt. Vernon, N.Y. / MO 4-7530 / *C 61
Analog computers, computing amplifiers and power supplies, analog recorders, analog to digital converters, digital voltmeters / Sa Ss(35) Le(1928) ADIc

Burndy Corp., Norwalk, Conn. / TEmple 8-4444 / *C 62
Electrical and electronic connectors, printed circuit connectors / RMSa Ls(2000) Le(1924) Ic

Burr and Company, P.O. Box 122, Wellesley Hills 81, Mass. / *C 61
Equity capital for small firms in the digital computer industry / Ss(2) Se(1959) Ic

Burroughs Corp., 6071 Second Ave., Detroit 32, Mich. / TRinity 5-2260 / *C 62
Burroughs 5000, 205, 220 and B200 series (250, 260, 270, 280) electronic data processing systems and digital computer components; also the E101 and E103 desk-size electronic digital computers for scientific and general business usuages, respectively; specialized punched card input-output systems; card-to-paper-tape conversion equipment; magnetic tape storage systems; tape handlers, keyboards, magnetic tape filing systems and tape recorders, paper tape and card readers and punches. Adding machines, bookkeeping machines, multiple tape listers, high speed printers, photo readers, etc. / RMSCa Ls(36,000) Le(1885) DIc

Burroughs Corp., Electronic Components Div., Plainfield, N.J. / PL 7-5000 / *C 61
Digital components and instruments / MSa Ms(200) Se(1956) DIc

Burroughs Corp., Electronic Tube Div., Mt. Bethel Rd., Mt. Bethel, N.J., P.O. Box 1226, Plainfield, N.J. / PL 7-5000 / *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 Automation, 288 Park Ave. W., Elmhurst, Ill. / DEarborn 2-3206 / *C 62
Monthly magazine devoted to business automation and data processing for corporate and middle management. Covers systems, machine accounting, communications and use of business forms for management in all types of industry, commerce, institutions and the government / MS(publishing)a Ss(40) Se(1958) Ic

Business Electronics Inc., 420 Market St., San Francisco 11, Calif. / DOuglas 2-0894 / *C 62
Home study courses in computer programming. Courses include programming technology and systems design in terms of business applications. General programming techniques and specific training for IBM 1401 Data Processing System / Education Ss(10) Se(1955) Ic

Bytrex Corp., 50 Hunt St., Newton 58, Mass. / WA 6-0360 / *C 62
Multi-channel strain gage data loggers, digital recording systems, electronic weighing and measuring systems, transducers / Ma Se(30) Se(1958) Ic

C

Cadre Industries Corp., 20 Valley St., Endwell, N.Y. / PI 8-3373 / *C 62
Cable harnesses, cable assemblies, wiring harnesses, custom manufacturing: amplifiers, plug-in modules and panels, test equipment, communications equipment and systems / RMa Ls(1400) Me(1950) Ic

California Computer Products, Inc., 8714 Cleta St., Downey, Calif. / SPruce 3-4921 / *C 61
Digital incremental X-Y recorders; magnetic tape plotting systems; digital computer development work / RMSa Ms(50) Se(1951) DIc

California Instruments Corp., 3511 Midway Drive, San Diego 10, Calif. / - / *C 62
DC amplifiers, automatic oscilloscopes, analog voltage comparators / MSa Ss(30) Se(1957) Ic

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., 220 E. 23rd St., New York 10, N.Y. / CAnal 6-7400 / *C 62
Microwave tubes, power tubes, cold cathode tubes, semi-conductors, storage oscilloscope which permits storage of signal for one week and permits comparison of 10 traces / Sa Ss(25) Me(1949) Ic

Cambridge Communications Corp., 238 Main St., Cambridge 42, Mass. / KI 7-1997 / *C 62
Abstracting articles and reports on cards / MSa Ss(9) Se(1957) Ic

Cambridge Thermionic Corp., 445 Concord Ave., Cambridge 38, Mass. / TRowbridge 6-2800 / *C 61
Miniature transistorized digital modules including flip-flops, inverter-nor logic, gates, buffer amplifiers and level triggers / RMSa Ms(275) Me(1941) Ic

Canadian Applied Research Ltd., 750 Lawrence Ave. W., Toronto 19, Ont., Canada / RUssell 1-1571 / *C 61
Instrumentation equipment using electronics, mechanics, optics, for application in fields of aviation, photography, aerial survey; automatic film processors, data recording cameras, analog computers, computer test equipment, automatic controls, fire control equipment, geophysical apparatus / MSa Ms(400) Se(1951) ACIc

Canadian Westinghouse Co., Ltd., P.O. Box 510, Hamilton, Ont., Canada / JAckson 8-6811 / *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. -- name changed to Data Processing Digest, Inc., which see

Capital Business Service, 520 East Michigan Ave., Lansing, Mich. / IV 7-5963 / *C 62
Complete data processing service with large number of tested standard programs for accountants and businesses. IBM 1401 computer and punched card equipment. Experienced in paper tape handling. Nation-wide service / C(data processing services)a Ms(55) Me(1943) Ic

Carbide and Carbon Chemicals Company - AEC, Numerical Analysis Dept. -- name changed to Union Carbide Nuclear Co., Central Data Processing, which see

CBS Laboratories, a Div. of Columbia Broadcasting System, Inc., 227 High Ridge Rd., Stamford, Conn. / DAvis 5-4321 / *C 62
VIDIAC Model 3SG-10 solid-state character generator / RMSCa Ms(250) Me(1936) Ic

C-E-I-R, Inc., One Farragut Square, Washington, D.C. / OT 4-6377 / *C 61
Linear programming; operations research; market research; econometrics; sampling and forecasting; systems design; computer programming; sales & distribution studies; PERT; mathematical model building; weapons systems analysis; war and business gaming; economic planning; reliability & quality control; production scheduling; inventory control; electronic data processing; mathematical statistics / RC(computing service)a / Ls(750) Se(1954) DAICc

C-E-I-R, Inc., 1200 Jefferson Davis Highway, Arlington 2, Va. (also: New York City; Los Angeles; Houston; Hartford; San Francisco; Palo Alto; Boston; Dugway, Utah; Fort Huachuca, Ariz.; London, England; Paris, France) / OTis 4-6377 / *C 61
Computing and consulting services. Offer IBM 704, IBM 7090 and peripheral equipment; programming / RCPa Ms(320) Se(1954) Ic

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 1, Wis. / WO 2-9200 / *C 62
Packaged circuits, potentiometers, switches, capacitors, engineering ceramics and precision resistors / Ma Ls(2800) Le(1922) Ic

Century Electronics & Instruments, Inc., 1333 N. Utica St., Tulsa 10, Okla. / LU 4-7111 / *C 61
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(250) Me(1945) Ic

C G Electronics Corp., 15000 Central, E., Albuquerque, New Mexico / AXtel 9-7601 / *C 60
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. -- name changed to Trak Electronics Co., Inc., which see

Chadwick-Helmuth Co., 472 E. Duarte Rd., Monrovia, Calif. / ELliot 8-4567 / *C 61
Electronic multiplier, oscilloscope sweep control, pulse camera, slow motion sampling / RMSCa Ss(12) Se(1953) Ac

Chrono-log Corp., 2583 West Chester Pike, Broomall, Pa. / HIlltop 6-1816 / *C 62
Real-time reference systems for digital computers, including time and date. Digital clocks, calendars, counters. Consultants in process control, computer control, industrial and military / MSCa Ss(10) Se(1956) Dc

Cinch Manufacturing Co., 1026 S. Homan Ave., Chicago 24, Ill. / - / *C 62
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

Civil Engineering Systems Laboratory, Rm. 1-090, M.I.T., Cambridge 39, Mass. / UNiversity 4-6900, Ext. 3881 / *C 62
Research and development on the uses of analog and digital computers in engineering. Instrumentation design and prototype development. Research on information systems / Ra Ss(20) Se(1958) DAIc

C. P. Clare & Co., 3101 W. Pratt Blvd., Chicago 45, Ill. / AM 2-7700 / *C 62
Sealed contact reed relays, mercury wetted contact relays, telephone type relays, stepping switches / RMa Ls(1600) Me(1937) Ic

Clarkson Press Inc., 189 Van Rensselaer St., Buffalo 10, N.Y. / TL 3-7500 / *C 62
GC data processing forms, GC panelLOGIC, GC forms-handling equipment / RMSa Ms(125) Me(1947) Ic

Clarostat Mfg. Co., Inc., Dover, N.H. / SHerwood 2-1120 / *C 61
Precision potentiometers (wirewound and composition element), switches, wirewound power resistors / RMSCa Ls(1400) Le(1922) Ic

Clary Corp., 408 Junipero St., San Gabriel, Calif. / CUmberland 3-2724 / *C 62
Solid state digital computers, arithmetic center, high-speed line printers and tape perforating equipment / RMSa Ls(800) Me(1939) DIc

Clevite Transistor, 200 Smith St., Waltham 54, Mass. / TWinbrook 4-7780 / *C 62
Gold bonded germanium diodes, silicon alloy diodes, silicon mesa diodes, milliminiature germanium diodes, silicon diffused rectifiers, germanium alloy power transistors, silicon planar epitaxial transistor, encapsulated modules / Ma Ls(1800) Se(1953) Ic

Clifton Precision Products Co., Inc., Marple at Broadway, Clifton Heights, Pa. / MAdison 2-1000 (Area Code 215) / *C 62
Synchros, rotary components, miniature servo assemblies / RMSa Ls(800+) Me(1947) DAIc

Cognitronics Corp., 549 Pleasantville Rd., Briarcliff Manor, N.Y. / ROgers 9-7900 / *C 62
Magnetic storage drums, compact memory units, read/write circuitry and associated digital electronics / RMSCa Ss(26) Se(1961) Ic

Collins Radio Co., Information Science Center, 19700 San Joaquin Rd., Newport Beach, Calif. / KImberly 9-2911 / *C 62
Collins Kineplex data communications systems for transmission of punched card, magnetic tape and other digital information over telephone line, radio circuit or other voice channels. Commercial and military communication and data processing systems and equipment including airborne data systems, teletype and other message

switching systems / RMSa Ls(750) Me(1950) DIc

Colorado Research Corp., Broomfield, Colo. / (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 Technical Corp., 24-30 Brooklyn-Queens Expressway, West, Woodside 77, N.Y. / YEllowstone 2-0800 / *C 61
Delay lines, wide-band RF transformers, protective coatings / RMSCa Ms(70) Se(1950) Ic

Comar Electric Co., 3349 Addison St., Chicago 18, Ill. / JUniper 8-2410 / *C 60
Relays, including hermetically sealed and subminiature, solenoids, coils and switches / MSa Ms(430) Me(1942) Ic

COMCOR, Inc., 430 S. Navajo, Denver 23, Colo. / SKyline 6-3608 / *C 62
Special purpose analog computer systems and components, computer facility maintenance / Ma Ss(40) Se(1959) AIc

Commercial Computers Inc., 36 Pleasant St., Watertown 72, Mass. / WA 6-0335 / *C 61
Small desk top computers, digital modules / Ma Ss(6) Se(1961) DIc

Comptometer Corp., 5600 W. Jarvis Ave., Chicago 48, Ill. / NIles 7-5800 / *C 61
Duplex and Simplex Comptometer adding-calculating machines, Comptograph 10-key adding machines, Electrowriter written communications equipment, telegraphic word counter, tape winding equipment, data conversion equipment / RMSa Ls(2000) Le(1889) Ic

Compu-Center Corporation, 136 West 52nd St., New York 19, N.Y. / CI 5-8806 / *C 60
Consulting, analysis, training, programming, and programmers on a contractual basis, as well as assisting in, or assuming complete responsibility for a short or long-term computer effort / RCa Ss(5) Se(1960) Ic

Compumatix, Inc., 440 S. Brentwood Blvd., St. Louis 5, Mo. / PA 6-2770 / *C 62
Consultants on all computers including systems and procedures, data processing on the LGP-30, IBM 650, IBM 702, IBM 705, IBM 7090, IBM 1401 / RCa Ss(10) Se(1956) DAIc

Computer Associates, Inc., 44 Winn St., Woburn, Mass. / WEIls 5-2121 / *C 62
Research, development, production, and consulting activities in digital computer programming, including: utility programs and packages, compilers and assemblers, programming and operating systems, command and control systems, information storage and retrieval systems, artificial intelligence, and scientific and commercial applications / RMCPa Ss(15) Se(1961) Ic

Computer Concepts, Inc., 1012 14th St., N.W., Washington 5, D.C. / 783-7215 / *C 62
Programming services, computer efficiency studies, machine translations / Ca Ss(35) Se(1961) Ic

Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. (Western Div., 2251 Barry Ave., Los Angeles 64, Calif.) / Framingham: 235-6220 / *C 62
Special purpose data handling and control systems. Also electronic and electromechanical components, including memory systems and packaged circuitry for computational, control and data handling applications / RMSCa Ms(350) Se(1952) DIc

Computer Engineering Associates, an affiliate of Susquehanna Sciences, Inc., 350 N. Halstead St., Pasadena, Calif. / ELgin 5-7121 / *C 62
Direct analog computer, specialists in complex structural analysis / RMC(engineering analysis)a Ms(75) Se(1952) Ac

Computer Equipment Corporation, 11612 W. Olympic Blvd., Los Angeles 64, Calif. / GR 9-4131 / *C 62
Digital data acquisition systems; range instrumentation; time sequencing systems. Time-to-digital converters. Computer-formatting systems / RMSa Ms(60) Se(1958) DIc

Computer Logic Corp., 11800 W. Olympic Blvd., Los Angeles 64, Calif. / - / *C 62
Logic cards and all system accessories. Special digital computers and custom systems. Circuit and system design consulting. Digital relay timer / RMSCa Ss(15) Se(1961) DIc

Computer-Measurements Co., Div. of Pacific Industries, Inc., 12970 Bradley Ave., Sylmar, Calif. / EMpire 7-2161 / *C 61
Digital frequency counting, timing, controlling and recording instruments. Motion picture film processing equipment / MSa Ms(140) Me(1949) DIc

Computer Operations, Inc., 600 Old Country Rd., Garden City, L.I., N.Y. / PIoneer 1-5180 / *C 62
Professional services, including: logical design, mathematical analysis, computer programming, data reduction, computer systems analysis, design and evaluation / C(programming; systems design & analysis)a Ss(8) Se(1960) DAIc

Computer Sciences Corp., Malaga Cove Plaza, Palos Verdes, Calif. (General Offices); 660 Madison Ave., New York 21, N.Y. (New York Div.) / Los Angeles: SPring 2-1179; New York: PLaza 2-6885 / *C 61
Complete computing services; small to large-scale computers available. Data processing (both commercial and scientific). Consulting; including analysis, programming, training, machine processing, feasibility studies, systems programming / RCPa Ss(42) Se(1959) DIc

Computer Services, Inc., 270 Park Ave., New York 17, N.Y. / WI 7-0583 / *C 60
Digital design and development; systems analysis; programming; computer installation and operation; service bureau operation with two general purpose electronic computers, one high speed printer and miscellaneous IBM equipment / RCPa Ss(30) Se(1958) DIc

Computer Systems Consultants, P.O. Box 5352, Kansas City, Mo. / - / *C 62
Consulting services; systems and programming service for small and medium sized businesses. Assembler, compiler and simulator development / Ca Ss(5) Se(1962) Ic

Computer Systems, Inc., Culver Rd., Monmouth Junction, N.J. / DA 9-2351 / *C 61
General purpose analog computers, DFG's, multipliers, servos, plotting boards, and rental of computing services / RMSCa Ms(150) Se(1950 as Mid Century Instrumatic Corp.) AIc

Computer Usage Company, Inc., 655 Madison Ave., New York 21, N.Y.; 1825 Connecticut Ave., Washington 9, D.C.; 6266 Manchester, Los Angeles 45, Calif. / - / *C 62
Analytical and programming services, both scientific and data processing; computer time by the hour / RSCa Ms(140) Se(1955) Ic

Computers and Automation, 815 Washington St., Newtonville 60, Mass. / DEcatur 2-5453 or 2-3928 / *C 62
Magazine dealing with computers and data processors, and their construction, applications, and implications including automation; published monthly by Berkeley Enterprises, Inc. / MSa Ss(10) Se(1951) Ic

Computing Devices of Canada Ltd., P.O. Box 508 (Hwy. 15, Bells Corners), Ottawa 4, Ont., Canada / TA 8-2711 / *C 61
Marketing in Canada of the Bendix G-20 and G-15 digital computers and accessories, Benson-Lehner data reduction equipment, Clary computer and printers, and those products manufactured by the Systems Division of Epsco, Inc. / RMSCa Ls(1000) Me(1948) DIc

Computron Inc., 122 Calvary St., Waltham, Mass. / TW 9-0880 / *C 62
Computer and instrumentation magnetic tape. Research and development in magnetic recording media / RMSCa Ms(52) Se(1960) Ic

Computronics, Inc. -- name changed to COMCOR, Inc., which see

Condenser Products Co., P.O. Box 1046, Brooksville, Fla. / 796-3562 and 796-4411 / *C 62
Capacitors (trademark copyright "Plasticon" and "Glassmike"), power supplies, pulse forming networks / RMSa Ss(36) Le(1910) Ic

Condenser Products Div., New Haven Clock & Watch Co. -- name changed to Condenser Products Co., which see

Consolidated Avionics Corp., 800 Shames Dr., Westbury, N.Y. /ED 4-8400 / *C 62
Transistorized power supplies, automatic test equipment, digital systems, logic modules / RMa Ms(150) Se(1955) DAIc

Consolidated Controls Corp., 16 Durant Ave., Bethel, Conn. / PIoneer 3-6721 / *C 62
Magnetic storage and memory systems, automatic controls, digital automation, magnetic drums, switches, robots, transducers / RMSa Ms(225) Se(1957) DAISCMc

Consolidated Electrodynamics Corp., 360 Sierra Madre Villa, Pasadena, Calif. / MUrray 1-8421 or SYcamore 6-9381 / *C 62
Electronic instruments for measurement, analysis, and control; instrumentation for dynamic testing; amplifiers; automatic control equipment, data processing and data recording equipment, information retrieval devices, input-output devices, regulated power supplies, magnetic tape recorders, magnetic storage systems, tape handlers, connectors, recording papers, transducers / RMSa Ls(3000) Me(1937) DAc

Consolidated Systems Corp., 1500 S. Shamrock Ave., Monrovia, Calif. / - / *C 62
A wide range of electronic and electro-mechanical systems for data handling, ground and space support, checkout, industrial control, and analog and flight instrumentation. Also analog to digital conversion and recording systems; printed circuit boards; military cameras, optics and electro-optical systems / MSCa Ls(700) Se(1954) DICc

Continental Connector Corp., 34-63 56th St., Woodside 77, N.Y. / - / *C 62
Complete line of printed circuit, micro-miniature, miniature, center screwlock, power, special designs and crimp-type removable contact plug and socket precision electronic connectors for computer, guided missile, aircraft and communication applications / RMSa Ms(500) Se(1952) Ic

Control Data Corp., 8100 34th Avenue South, Minneapolis 20, Minn. / 888-5555 / *C 62
Digital computers, systems, and devices; gyros, accelerometers, magnetic amplifiers, guidance and communications systems; converters; data processing equipment; resolvers, synchros, translating equipment; visual output devices; peripheral equipment; source data collectors; magnetic tape units; digital control equipment; control equipment / RMSa Ls(1800) Se(1957) DASc

Control Electronics Co., Inc. -- name changed to Paradynamics Inc., which see

Control Logic Inc., 11 Mercer Rd., Natick, Mass. / OL 5-1170 / *C 62
Welded circuit modules, real-time and digital control systems / RMSCa Ss(20) Se(1961) DIc

Control Switch Div., Controls Co. of America, 1420 Delmar Dr., Folcroft, Pa. / LU 3-2100 / *C 62
Switches, lighted panel components, complete electromechanical subassemblies / MSa Ls(600) Se(1960 merger) Ic

Control Technology, Inc., 1232 Belmont Ave., Long Beach 4, Calif.; P.O. Box 1183, Atlantic City, N.J. / GE 3-3360 (Calif.) / *C 62
Consulting, research and development studies, analysis, programming, training, systems engineering; on-line computer control, data processing, simulation, scientific computation / RCPa Ss(20) Se(1960) DAICc

Convair-Astronautics Electronics Dept., a Div. of General Dynamics -- name changed to General Dynamics/Astronautics a Div. of General Dynamics Corp., which see

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 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)a Ls(800) Me(1942) DAIc

Convair, Nuclear Research & Development Section, Fort Worth, Tex. / PE 8-7311, Ext. 3577 / *C 61
Data Handling and processing equipment / RMSCa Ms(200) Se(1950, department) Ic

Cook Electric Co., 2700 Southport Ave., Chicago 14, Ill. / DIversey 8-6700 / *C 61
Automatic controls and equipment, data recording cameras and equipment; consulting services and Univac solid state computing 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

Cornell-Dubilier Electronics, Div. of Federal Pacific Electric Co., 50 Paris St., Newark 1, N.J. / MArket 4-7500 / *C 62
Capacitors, relays, pulse networks, filters,

converters, semiconductors, delay lines, vibrators, antenna rotors, inverters, test instruments, packaged circuits and systems / RMa Ls(4000) Le(1910) Ic

Corning Electronic Components, Corning Glass Works, 550 High St., Bradford, Pa. / FOrest 2-5571 / *C 62
Electronic components, capacitors, printed circuit boards, ultrasonic delay lines, resistors, trimmers, metallized glass components / RMSa Ls(800) Le(1851) DAIc

Creed & Co., Ltd. (assoc. of ITT Corp.), Telegraph House, Croydon, Surrey, England / MUnicipal 2424 / *C 62
Wide range of teleprinters and punched tape equipment for communications, data processing, automation. Product range includes 300 characters per second punch -- Model 3000; and 100 characters per second printer -- Model 1000, for computer output recording / RMSa Ls(2000) Le(1909) DIc

Cresmont Electronics, a Div. of Crestmont Consolidated Corp., 2201 W. Burbank Blvd., Burbank, Calif. / VIctoria 9-6481 / *C 61
Manufacture perforated tape programmed controllers, paper tape readers, solid state commutator simulators, solid state decommutators, solid state commutators, as well as data acquisition systems and supervisory control systems / RMSa Ss(6) Se(1960) Ic

Cubic Corporation, San Diego 11, Calif. / BRowning 7-6780 / *C 61
Transistorized playback system; transistorized digital recording system; digital computers, analog to digital converters, data processing and translating equipment / RMSa Ms(500) Se(1950) DAIc

Cybetronics, Inc., 132 Calvary St., Waltham 54, Mass. / TW 9-0012 / *C 62
Magnetic tape tester, magnetic tape cleaner, digital system for controls, consulting services / RMCa Ss(12) Se(1960) ICc

D

Dale Electronics, Inc., P.O. Box 488, Columbus, Nebr. / LOcust 4-3131 / *C 62
Resistors, precision and trimmer potentiometers, cable assemblies, resistor networks, logic circuits / Ma Ls(1000) Se(1951) Ic

Daniel, Mann, Johnson & Mendenhall, 3325 Wilshire Blvd., Los Angeles 5, Calif. / DUnkirk 1-3663 / *C 62
System design for military, commercial and industrial needs. Consulting services in the system and automation field. Design, evaluate, implement, train, supervise conversion to automated systems / RC(education)a Ms Me(1946) Ic

Dashew Business Machines, Inc., 3655 Lenawee Ave., Los Angeles 16, Calif. / UPton 0-5376 / *C 61
Source data gathering and data-collection equipment / MSCa Ms(400) ?e Ic

Data Computing Corp., 229 Baldwin Rd., Hempstead, L.I., N.Y. / - / *C 62
Serves approximately 200 companies in the metropolitan New York area as their data processing and computing agency. Uses latest IBM equipment / RC(IBM services)a Ms(60) Se(1955) DIc

Data Instruments Division Telecomputing Corp., 12838 Saticoy St., N. Hollywood, Calif. / TRiangle 7-8181 / *C 61
Paper tape reader, paper tape perforator, data reduction systems, electronic counter, paper tape to card, counters telemetry PAM/PDM, telemetry decommutator, digital instruments / RMSCa Ms(106) Me(1947) DAc

Dataman Associates, 120 Boylston St., Boston 16, Mass. / - / *C 62
Personnel consulting / Ca Ss(8) Se(1959) Ic

Datamation Inc., 1500 Tryon Ave., W. Englewood, N.J. / TE 3-1350 / *C 62
Data processing, electronics, service, IBM-1620 computer, IBM 407, 604 / Ca Ss(41) Se(1959) Ic

Datamec Corp., 345 Middlefield Rd., Mountain View, Calif. / - / *C 62
Digital magnetic tape units; low-cost electromechanical computer peripherals including input/output devices / MSa Ss(25) Se(1961) Ic

Datanamics, Inc., 7810 Burnet Ave., Van Nuys, Calif. / TR 3-5370; Los Angeles sales office, DU 8-0431 / *C 61
Source data recorders (off-line) which punch IBM cards for EDP input as a by-product of source transactions / MSa Ms(50) Se(1958) Ic

Data Processing Corp., 311 S. Sharp St., Baltimore 1, Md. / - / *C 62
Data processing, systems analysis and programming assistance for business applications, operations research forecasting. 1401 computer on premises. 1410, 7070 available at reasonable hourly rates. / RC(data processing services)a Ms(200) Le(1929) DIc

Data Processing Corporation of America, 375 Park Ave., New York 22, N.Y. / PLaza 3-4260 / *C 61
Management and operation of data processing systems service centers, including programming and electronic computer services / RCPa Ss Se(1958) DIc

Data Processing Digest, Inc., 1140 S. Robertson Blvd., Los Angeles 35, Calif. / BRadshaw 2-8425 / *C 62
Publishers of "Data Processing Digest" / Sa Ss(5) Se(1954) Ic

Data Processing, Inc., 1334 Main St., Waltham 54, Mass. / TWinbrook 9-2000 / *C 61
Analytical and programming services for digital computer applications / Ca Ss(16) Se(1957) Dc

Datapulse Inc., 509 Hindry Ave., Inglewood 1, Calif. / ORchard 1-7713, ORegon 8-3983 / *C 62
Test instrumentation: pulse generators, data simulators / RMSa Ss(30) Se(1961) Ic

Data Sciences, Inc., 230 Middle Neck Rd., Great Neck, N.Y.; Boston office: Hickory Drive, Waltham 54, Mass. / HUnter 7-0220 (N.Y.); TWinbrook 9-2400 (Mass.) / *C 62
Data Processing, information handling, information management training, systems design, programming / Ca Ss(10) Se(1960) DICc

Data-Service, Inc., 238 Main St., Cambridge 42, Mass. / KI 7-5487 / *C 62
Data-processing service for business and industry (programming and production) / RS(service)a Ss(15) Se(1961) Ic

Data Systems Dept., Norden Div., United Aircraft Corp., 13210 Crenshaw Blvd., Gardena, Calif.

Data Systems Division (formerly PDP Division), American Electronics, Inc., 10 E. 40th St., New York 16, 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

Data Tech, 238 Main St., Cambridge 42, Mass. / UNiversity 8-6018, 8127 / *C 61
Digital shaft position encoders, direct-reading and incremental, function generators / RMa Ss(8) Se(1960) Ic

Datatrol Corp., 8113A Fenton St., Silver Spring, Md. / JUniper 7-9175 / *C 62
Digital computer systems; scientific programming, data processing; information retrieval systems; life sciences research / RC(computer systems & programming services)a Ss(40) Se(1959) DIc

Datex Corp., 1307 S. Myrtle Ave., Monrovia, Calif. / ELiott 9-5381 / *C 62
Analog-to-digital shaft position encoders; automatic controls; complete data recording and control systems, including card readers and printers; input-output devices, pressure scanners / RMSCa Ms(250) Se(1952) DAICc

The Daven Co., Route 10, Livingston, N.J. / WYman 2-4300 / *C 61
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 witches. Consulting services / RMSCa Ls(1149) Le(1930) AIc

Daystrom, Inc., Control Systems Division, 4455 Miramar Rd., La Jolla, Calif. / GL 4-0421 / *C 61
Digital computers, analog computers, special-purpose digital systems, fuel safety systems, data reduction, memory systems, Magsense® detectors and alarms, systems engineering and service force. Complete solid state digital process control systems and components; transistorized random access magnetic core memory systems; tape-to-tape converters / RMSa Ms(250) Se(1956) DAICc

Daystrom, Inc., Military Electronics Division, Archbald, Pa. / Jermyn, Pa. 1100 / * C 61
Special purpose data handling equipment to military specifications / RMa Ls(1500) Se(1951) DAIc

Daystrom, Inc., Weston Instruments Div., 614 Frelinghuysen Ave., Newark 14, N.J. / - / *C 62
Instruments and components; indicating, recording, and controlling instruments; product resolvers, input-output devices, multipliers, relays, and resistors / RMa Ls(over 2000) Le(1888) Ic

Daystrom-Wiancko Engineering Co. -- name changed to Wiancko Engineering Co., which see

DeJur-Amsco Corp., Electronics Div., 45-01 Northern Blvd., Long Island City 1, N.Y. / RAvenswood 1-8000 / *C 62
Precision potentiometers, panel instruments / RMSa Ms(500) Le(1922) Ic

Delco Radio Div., General Motors Corp., 700 E. Firmin St., Kokomo, Ind. / GLadstone 2-8211 / *C 62
Digital control computers -- airborne, ground and special purpose; power transistors -- up to 50 amp; solid-state precision power supplies; silicon rectifiers -- up to 125 amp; solid-state industrial control circuits; digital module circuits, buffer memory system, data format converters / RMS(study programs)a Ls(4000) Me(1936) DIc

Delta Data Corp., 3134 Shane Dr., Richmond, Calif. / CA 3-7100 / *C 61
Consulting services, testing, scoring / Ca Ss(10) Se(1959) Ic

Deltime, Inc., 608 Fayette Ave., Mamaroneck, N.Y. / OW 8-5800 / *C 61
Delay lines (magnetostrictive) / RMa Ms(65) Se(1956) Ic

Dennison Mfg. Co., Machines Systems Div., 300 Howard St., Framingham, Mass. / TRinity 3-3511 / *C 62
Print-punch marking machines and print-punch tickets -- single or multiple stub-coded basic input media / RMSa Ls(2700, Dennison) Le(1844, Dennison) Ic

Denver Electronic Computing Service, Inc., 1345 Stout St., Denver 4, Colo. / - / *C 62
Engineering and accounting data processing service / RMC(general accounting)a Ss(15) Se(1953) Dc

Designers for Industry, Inc., 4241 Fulton Parkway, Cleveland 9, Ohio / SH 9-0700 / *C 62
Research and development services -- digital computers and data handling including designing and building / RM(special and prototype)CPa Ms(120) Me(1935) DCMc

Dialight Corp., 60 Stewart Ave., Brooklyn 37, N.Y. / HYacinth 7-7600 / *C 62
Indicator lights, pilot lights, ultra-miniature indicator lights ("Datalites") for computer and automation fields. Data-Strip and Data-Matrix for computers, etc. Telephone light strips and indicator lights; transistorized indicator lights. Illuminated pushbutton switches. Oil-tight indicator lights for heavy-duty industrial applications / RMSa Ms(250) Me(1937) Ic

Dialtron Corporation, 203 Harrison Pl., Brooklyn 37, N.Y. / HYacinth 7-7600 / *C 61
Thermal time delay relays / RMSa Ms(230) Me(1938) Ic

Diamonite Products Mfg. Co., McConkey St. Ext., Shreve, Ohio / JO 7-4211 / *C 62
Computer components of alumina ceramics, high strength, low loss, high density, electrical insulating, vacuum tight, readily metallized. Sizes available, subminiature through abnormal requirements / RMSa Ms(150) Me(1940) Ic

DI/AN Controls, Inc., 944 Dorchester Ave., Boston 25, Mass. / AVenue 8-7700 / *C 62
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(140) Se(1958) DAIc

Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / VI 6-4155 / *C 62
D. C. analog computers -- analog computing services. Analog computing services; general purpose analog computers. Design and construction of special purpose computers, simulators, and trainers / RMSCPa Ss(10) Se(1955) Ac

The Diebold Group, Inc., 430 Park Ave., New York 22, N.Y. / - / *C 62
Full range of integrated services in the fields of modern management and management science. Areas of specialization include automation, automatic data processing, programming, information technology, product and business planning analyses. Subsidiary companies in 13 cities on three continents / RC(training, publication)a Ms(150) Me(1954) Ic

Diginamics Corp., 2525 E. Franklin Ave., Minneapolis 6, Minn. / FE 5-8711 / *C 61
Digital transducers, encoders, satellite control computers, digital control systems / RMSa Ms(50) Se(1961) DICc

Digital Development Corp., 7541 Eads Ave., La Jolla, Calif. / GL 9-3383 / *C 62
Memory drums and systems, and special peripheral equipment, i.e. converters, multiplexers, etc. / RM(product development)a Ss(18) Se(1959) DIc

Digital Equipment Corp., Main St., Maynard, Mass. / TWinoaks 7-8821 / *C 61

Digital computers, special computer systems, memory test systems, digital system modules, digital laboratory modules, digital training modules, digital classroom modules / RMSa Ms(158) Se(1957) Dc

Digital Service Labs, 23922 Crenshaw Blvd., Torrance, Calif. / DAvenport 5-0711 / *C 62
Electronic computers, service test equipment, and paper tape preparation equipment / RMSCa Ss(8) Se(1955) DAIc

Digitronics Corp., 1 Albertson Ave., Albertson, L.I., N.Y. / HI 4-1000 / *C 62
Data transmission systems, magnetic-tape paper-tape converters, photoelectric paper tape readers and handlers / Ma Ms(250) Se(1957) DICc

DIT-MCO, Inc., Electronics Div., 911 Broadway, Kansas City 5, Mo. / HArrison 1-0011 / *C 62
Automatic circuit analyzers, logic circuit testers and electro-mechanical systems analyzers / RMSa Ms(200) Me(1948) Ic

Dorsett Electronics, Inc., 119 W. Boyd, Norman, Okla. / JEfferson 4-3750 / *C 62
Telemetry components and systems / RMSPa Ms(500) Me(1950) Ic

Douglas Aircraft Co., Inc., Douglas Computing Service, Dept. G-34, 3000 Ocean Park Blvd., Santa Monica, Calif. / EX 9-9311, ext. 2122 / *C 62
Rental of excess digital computing machine time on the wide range of business and scientific computers (IBM 7090, 1620, and 1401 computers) / RMa Ms(400) Se(1959) Dc

Dresser Electronics, SIE Div., a division of Dresser Industries, Inc., 10201 Westheimer Rd., Houston 42, Tex. / SUnset 2-2000 / *C 62
Analog computers, special purpose military and industrial digital and analog systems, digital computers, solid state analog/digital and digital/analog converters, magnetic amplifiers, integrators, automatic control systems, telemetry systems, reading and recording heads. Geophysical instruments, government contracting, heavy manufacturing, consulting services / RMSCGa Ls(761) Me(1945) DAICc

Dresser Products Inc., P.O. Box 2035, Providence 5, R.I. / - / *C 62
Punched tape handling equipment and filing supplies / Ma ?s ?e Ic

Drexel Dynamics Corp., Maple Ave., Horsham, Pa. / WA 7-6200 / *C 61
High-speed printer/plotter, tape to tape translators, digital process control systems, digital logic circuit cards / RMSa Ms(215) Se(1956) DICc

Duke University, Computing Laboratory, Durham, N.C. / 681-0111, Ext. 3695 / *C 62
IBM 7070 used for research and instruction / R(instruction)a Ss(16) Se(1958) Ic

Arnold I. Dumey, 29 Barberry Lane, Roslyn Heights, N.Y. / MAyfair 1-7239 / *C 62
Consultant, data handling problems / Ca Ss Se(1954) DIc

Dynacor, Inc., a subsidiary of Sprague Electric Co., 1014 Westmore Ave., Rockville, Md. / - / *C 61
Magnetic cores / Ic

Dynatech Corp., 17 Tudor St., Cambridge 39, Mass. / - / *C 62
Business and engineering research consulting / RCa Ms(91) Se(1957) DACc

E

Eastman Kodak Co., 343 State St., Rochester 4, N.Y. / LOcust 2-6000 / *C 62
Photographic equipment, staple synthetic and organic chemicals and dyestuffs; facsimile equipment (photocopy); recording paper / RMSa Ls(50,000) Le(1889) Ic

Ebasco Services Incorporated, 2 Rector St., New York 6, N.Y. / DIgby 4-4400 / *C 62
Engineering and management consultants; consulting services in application of electronic data processing to accounting and business systems; engineering applications; plant automation; feasibility studies; installations / CPa Ls(1600) Le(1905) DIc

Edin, a Div. of Epsco, Inc., 207 Main St., Worcester 8, Mass. / PL 7-8394 / *C 61
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. / REdwood 6-1000 / *C 62
Servo motors, motor generators, gear heads, electro-mechanical packages. Time delay relays, thermostats and sensitive D.C. relays / Ma Ms(350) Le(1928) 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

Efcon, Inc., (subsidiary of General Instrument Corp.), Patterson Place, Roosevelt Field, Garden City, L.I., N.Y. / Pioneer 1-4200 / *C 61
Plastic film capacitors / MSa Ms(50) Se(1952) Ic

Elco Corp., "M" St. below Erie Ave., Philadelphia 24, Pa. / CU 9-5500 / *C 62
Varicon connectors, contacts, tube sockets, card cage / Ma Ms(497) Me(1947) Ic

The Electrada Corp., 11244 Playa St., Culver City, Calif. / UPton 0-9883 / *C 62
Data Entry Console, i.e., Datacom; input-output devices / RMSa Ms(77) Se(1959) Ic

Electralab Printed Electronics Corp., 175 "A" St., Needham Heights 94, Mass. / HIllcrest 4-3912 / *C 61
Printed wiring and printed circuit assemblies; PROTOMAKA -- a laboratory unit for making printed wiring boards for prototypes / MSa Ms(250) Se(1952) Ic

Electric Boat Div., General Dynamics, Groton, Conn. / - / *C 62
Computer services / Ca ?s ?e AIc

Electric Specialty Co., 211 South St., Stamford, Conn. / FIreside 8-6203 / *C 60
Digital and analog computer power supply systems / Ma Ms(300) Le(1913) DAIc

Electro Instruments, Inc., 8611 Balboa Ave., San Diego 11, Calif. / BRowning 7-6590 / *C 62
Digital voltmeters, ohmmeters, ratiometers; analog-to-digital converters; digital-to-analog converters; X-Y recorders; wideband DC amplifiers; data acquisition systems, and other digital instruments / Ma Ms(400) Se(1954) DAIc

Electro International, P.O. Box 391, 2nd St. Extended, Greenwood Acres, Annapolis, Md. / COlonial 3-2661 / *C 61
Program selection and processing consoles (NASA) and installation / RMa Ms(156) Me(1950) ICc

N. V. Electrologica, Stadhoudersplantsoen 214, The Hague, The Netherlands / 514641 / *C 62
Digital computers, high speed tape reader, high speed printer, 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, typewriter / RMSCa Ms(350) Se(1956) DIc

Electro-Mec Instrument Corp., 47-51 33rd St., Long Island City 1, N.Y. / STillwell 6-3402 / *C 62
DIGITOMETERS (trade name), analog to digital converters; potentiometers (computer type); resistors, wirewound, precision; goniometers (angle measuring fixture for calibration of potentiometers, synchros, etc.) / MSa Ms(130) Se(1950) DAIc

Electro-Mechanical Research, Inc., P.O. Box 3041, Sarasota, Fla. / RIngling 6-1148; ASCOP Div., P.O. Box 44, Princeton, N.J., SW 9-1000 / *C 61
Digital decommutators, shaft encoders, all types of telemetry, transducers, industrial telemetering and supervisory control, data handling systems, automatic signalling controls, photomultiplier tubes / RMSa Ls(750) Me(1942) DICc

Electro-Miniatures Corp., 606 Huyler St., S. Hackensack, N.J. / HUbbard 8-770 / *C 62
Slip ring and brush assemblies, commutators, rotary switches / Ma Ms(125) Se(1955) Ic

The Electro-Motive Mfg. Co., Inc., S. Park & John St., Willimantic, Conn. / HA 3-4551 / *C 61
Capacitors / Ma Ls(1800) Le(1933) Ic

Electronic Associates, Inc., Long Branch Ave., Long Branch, N.J. / CApital 9-1100 / *C 61
Analog computers, x-y recorders, magnetic tape data plotting systems. Analog computing centers / RMSCa Ls(1100) Me(1945) AIc

Electronic Business Services, 3266 Hunts Point Rd., Bellevue, Wash. / GLencourt 4-5810 / *C 61
Consultants in automation and data processing service specializing in the needs of small and moderate size business firms, prototype digital data processor under construction / RMSCPBa Ss(3) Se(1955) DCMc

Electronic Contractors, Inc., 2101 S.E. 6th St., Portland 14, Ore. / BE 4-3515 / *C 61
AC network computers and analyzers, Enns power network computer / MSa Ss(20) Se(1953) Ac

Electronic Counters, Inc., 155 Eileen Way, Syosset, L.I., N.Y. / WAlnut 1-5000 / *C 62
Electronic counters, timers, and digital meters, high speed or quick look digital recorders / MSa Ss(25) Se(1960, subsidiary of Potter est. 1942) DIc

Electronic Data Processing Center, Inc., 2221 S.W. 5th Ave., Portland 1, Ore. / CApitol 6-6051 / *C 60
Complete electronic data processing services with supporting technical staff / RCa Ss(8) Se(1959) Ic

Electronic Data Service, Inc., 802 Philadelphia Pike, Wilmington, Del. / - / *C 62
80 column punched card tabulating service; 1401 IBM system and 7070 IBM. EDP system for lease; punched card and EDP educational program / CPa ?s ?e Ic

Electronic Engineering Company of California, 1601 E. Chestnut Ave., Santa Ana, Calif. / KImberly 7-5501 / *C 61
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; paper tape readers, paper tape programmer, paper tape spooler / RMSCa Ms(300) Me(1947) Ic

Electronic Processing Center Inc., 253 N. Broad St., Philadelphia 7, Pa. / - / *C 62
Punch card service center providing conversion of punched paper tape to cards and computer processing service for small businesses. 650 card system, 1401 tape system (4 tapes, 8K) and usage of a GE 225 4 tape system / (service, preparing reports)a Ss(30, plus part timers) Se(1958) Ic

Electronics Development Corp., 3743 Cahuenga Blvd., N. Hollywood, Calif. / TRiangle 7-3223 / *C 60
RF wideband data/transmission systems / RMSa Se(20) Se(1955) Ic

The Electro Nuclear Systems Corp., 9449 Science Center Drive, Minneapolis 27, Minn. / 533-2771 / *C 62
Automatic control equipment; circuits; digital and special purpose computers; analog-to-digital and digital-to-analog converters; data recording equipment; data reduction equipment; magnetic heads; input/output devices; character and photoelectric readers; scanners; visual output devices / RMa Ms(130) Se(1960) DAICMc

Electropac, Inc., Industrial Park, Peterborough, N.H. / WA 4-64N / *C 62
Contract manufacturer for the digital computer field / Ma Ms(75) Se(1960) Dc

Electroplex, Inc., 120 West 131 St., Los Angeles 61, Calif. / FAculty 1-6212 / *C 62
Plug-in digital circuit modules (welded or soldered); digital systems; high efficiency power supplies, time base generators / RMSa Ss(30) Se(1961) Ic

Electro Products Laboratories, Inc., 4501 N. Ravenswood Ave., Chicago 40, Ill. / LOngbeach 1-1707 / *C 62
Metal sensing transducers, over/under speed controls, electronic tachometers / RMSa Ms(50) Me(1936) DAISCMc

Electro Scientific Industries, 7524 S.W. Macadam Ave., Portland 19, Ore. / CH 6-3331 / *C 61
Analog computer for complex algebraic functions / RMSa Ms(125) Me(1947) Ac

Elgenco, Inc., 1231 Colorado Ave., Santa Monica, Calif. / Area Code 213 EX 3-3023 / *C 62
Electronic noise generators, computer auxiliary equipment / RMSa Ss(12) Se(1955) Ic

Elgin Micronics Division, Elgin National Watch Co., 366 Bluff City Blvd., Elgin, Ill. / SH 2-5700 / *C 61
Sub-miniature magnetic recorders, analog-to-digital encoders, time code generators and precision subminiature mechanical components / RMSa Ms(500, 3 plants) Se(1950) AIc

Elliott Bros. (London) Ltd. -- computing and data processing activities reorganized into Computing Services Div., Elliott Computing Div., and National Computing Div., which see

Elliott Bros. (London) Ltd., Elliott Computing Div., Borehamwood, Hertfordshire, England / Elstree 2040 / *C 62
Design and manufacture of general and special purpose computing and data processing systems; peripheral equipment; system study; programmer training / RMSa Ls Le(1800) DASCc

Elliott Bros. (London) Ltd., National Computing Div., Borehamwood, Hertfordshire, England / Elstree 2040 / *C 62
Manufacturer in the U. K. of computing and data processing equipment to design of N.C.R., Dayton, Ohio / Ma Ms Le Ic

Elliott Bros. (London) Ltd., Computing Services Div., Borehamwood, Hertfordshire, England / Elstree 2040 / *C 62
Advisory services, programming and computer time hire for all applications other than business. Computing Centre has 6 machines / Ca Ms Le Ic

Elliott Industries, Inc., 143 Albany St., Cambridge 39, Mass. / TRowbridge 6-2020 / *C 62
Addressing machines and data-imprinting systems; addressing stencils / MSa Ls(1000) Le(1900) Ic

Roster of Organizations

El-Rad Manufacturing Co., 4300 N. California Ave., Chicago 18, Ill. / IRving 8-7300 / *C 62
Delay lines and pulse transformers for computer application / Ma Ms(300) Me(1944) Ic

Embree Electronics Corp., 993 Farmington Ave., West Hartford 7, Conn. / ADams 2-5144 / *C 61
Electronic analog computers, operational and stabilizing amplifiers, DC power supplies, operational six-packs / RMSCa Ss(10) Se(1959) AIc

Engineered Electronics Co., 1441 E. Chestnut Ave., Santa Ana, Calif. / KI 7-5651 / *C 62
Transistorized plug-in modules, indicators and decades. High-density MiniWeld Packaging. Complete line of digital building blocks. Transistorized plug-in modules, transistorized Minisig indicators, 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 / Ma Ms(200) Me(1954) Ic

The English Electric Co., Ltd., English Electric House, Strand, London, W.C. 2, England / Covent Garden 1234 / *C 62
KDP10, KDF9, KDN2 and DATAPAC data processing and data handling systems / RMSCa Ls(1100) ?e ,Dc

Epsco, Inc., 275 Massachusetts Ave., Cambridge 39, Mass. / UNiversity 4-4950 / *C 62
Computer components and equipment: shift registers and assemblies, buffer storage units, printers, special purpose computers, monitoring systems, computer linkages and format recorders, 1 and 5 megacycle digital circuit cards, wideboard amplifier series, portable data gathering systems, high speed A/D converters, voltmeters, reference sources. Pulse code modulation air and ground telemetry systems / RMSCa Ms(500) Se(1954) DAIc

ESC Electronics Corp., 534 Bergen Blvd., Palisades Park, N.J. / WIndsor 7-0400 / *C 61
Delay lines, pulse forming networks, pulse transformers, filters, embedded assemblies and components, shift registers, miniature pulse transformers, etc. / RMSa Ms(180) Se(1953) Ic

Ess Gee, Inc., 15 Havens St., Elmsford, N.Y. / LYric 2-8620 / *C 62
Airborne data processing equipment and instrumentation. Instrumentation and recording equipment for operation into computers, A/D converters, and computer interconnection components. Ground data handling systems / RMa Ss(35) Se(1959) IMc

Executive Computer Utilization, 161 W. Wisconsin Ave., Suite 5138, Milwaukee 3, Wis. / - / *C 62
Computer programming school, computer service center (Monrobot XI, CDC 160), feasibility analysis, equipment evaluation, EDP organization planning, management seminars on EDP problems, EDP personnel selection and training, operations research, business systems design, computer programming, computer operations technique, periodic reappraisal / CP (computer services, computer education)a Ss(6) Se(1961) Ic

E-Z Sort Systems, Ltd., 45 Second St., San Francisco 5, Calif. / GArfield 1-8005 / *C 62
Edge-punched cards for filing and sorting data. Special cards for correlation of facts. Control systems for a number of electronic computers. Teaching machines, program scheduling / RMSa Ms(225) Me(1935) Ic

F

Fabri-Tek Inc., Amery, Wisc. / - / *C 62
Magnetic core memory systems and memory planes / RMSa ?s ?e Ic

Fae Instrument Corp., 16 Norden Lane, Huntington Station, L. I., N. Y. / AR 1-0300 / *C 62
Magnetic clutches and brakes, mechanical differentials, gear heads and speed reducers, bellows coupling, design servo systems / M(design special servo systems)a Se(28) Me(1950) Ic

Fairchild Camera and Instrument Corp., Defense Products Div., Robbins Lane, Syosset, L. I., N. Y. / WEIls 1-4500 / *C 61
Reconnaissance and mapping systems; data processing and display systems; communication and special radar systems; electronic control and support equipment; ordnance products / RMSa Ls(1500) Le(1920) Ic

Fairchild Controls Corp., Components Div., 225 Park Ave., Hicksville, L. I., N. Y., West Coast: 6111 E. Washington Blvd., Los Angeles 22, Calif. / N. Y.: WEIls 8-5600 / *C 62
Silicon semiconductor strain-gage pressure transducers, silicon semiconductor strain-gage load cells, conductive plastic potentiometers; single and multi-turn wirewound potentiometers, linear and non-linear; metal film trimmers, potentiometric pressure transducers, accelerometers, subminiature rate gyros, guidance control packages, switches, machmeters, pot-clutch-brake modules / Ma Ms(500) Me(1945) Ic

Fairchild Graphic Equipment, Div. of Fairchild Camera & Instrument Corp., Fairchild Dr., Plainview, L. I., N. Y. / WEIls 8-9600 / *C 61
Tape perforators and operating units for local or distant automatic control of Linotypes and Intertypes / MSa Ms(250) Me(1948) Ic

Fairchild Semiconductor, 545 Whisman Rd., Mountain View, Calif. / YOrkshire 8-8161 / *C 62
Diffused silicon planar transistors, diffused silicon planar diodes; Micrologic elements; transistor and diode test equipment / RMSa Ls(1800) Se(1957) Ic

Fair, Isaac & Co., Inc., 156 Montgomery St., San Francisco 4, Calif. / *C 61
Consultants in operations research, computing and data processing / RCa ?s ?e 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., 99 Wall St., Valhalla, N. Y. / ROckwell 1-2600 / *C 62
Linear and rotary control equipment / RMSCa Ms(less than 500) Se(1956) Ic

Farrington Electronics Inc., 7019 Edsall Rd., Alexandria, Va. / - / *C 62
Farrington optical scanners -- 1D, 1P, and 9SP Series / RMSa Ms(280) Se(1953) Ic

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

Feedback Controls, Inc., 8 Erie Dr., Natick, Mass. / OLympic 3-3411 / *C 62
Magnetic amplifiers, quadrature rejectors, data repeaters, servo multipliers, servomotor gearheads, analog computers, computer test equipment / RMSa Ms(75) Se(1954) AIc

Fenwal, Inc., 362 Pleasant St., Ashland, Mass. / 875-6111 / *C 62
Temperature controls, fire detection systems, monitoring systems / Ma Ls(700) Me(1935) Cc

Ferranti Electric, Inc., Plainview, L. I., N. Y. / 516 WE 8-7500 / mfg. plant at Plainview. Agent for Ferranti Ltd., Hollinwood, England and Ferranti-Packard Electric Ltd., Toronto, Ont., Canada / *C 62
General purpose computers (Atlas, Orion, Sirius, Gemini), process control computers (Argus Series), special purpose computers, airline reservation systems, check sorting systems, data processing and digital communication systems, display systems, magnetic drums, magnetostriction delay lines, fixed memories, matrix display modules, high resolution display tubes / Ma Ls(16,000) Le(1896) DIc

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ontario, Can. / 762-3661 / *C 62
General and special purpose digital computers and systems, including airline reservation, traffic control, process control, data process and cheque sorting computer systems. Large digital memory systems. Consulting, development and manufacturing services / RMSC(system mgm)a Ms(div. only - 360) Le(1894) DICc

Ferroxcube Corp. of America, 2900 E. Bridge St., Saugerties, N. Y. / CHerry 6-2811 / *C 62
Ferrite cores, including pot cores, cup cores, recording heads, and microminiature toroids with square hysteresis loop; memory arrays, thermistors, varistors, light-dependent resistors, ceramic permanent magnets, resistors, pulse transformers / MSa Ms(250) Me(1949) Ic

Fischbach, McCoach & Associates, Inc., 30 East 42nd St., New York 17, N. Y. / MUrray Hill 2-5696 / *C 62
Management consultants specializing in application of scientific techniques to business-type problems. Complete service in appraisals and installation of electronic data processing and control systems / RCa Ss(8) Se(1959) DAISc

Fischer & Porter Co., 330 Warminster Rd., Warminster, Pa. / OSborne 5-6000 / *C 62
Data reduction and automation equipment including data loggers, analog-to-digital recorders and converters / RMSCa Ls(1500) Me(1937) Ic

Flight Research, Inc., P. O. Box 1-F, Richmond 1, Va. / REpublic 7-4163 / *C 60
Photographic data recording equipment; data recording cameras (pulse and cine). Automatic exposure control, intervalometer, clutches. Autopilot Omni Coupler / RMSa Ss(35) Me(1946) Ic

Florida State University, Computing Center, Tallahassee, Fla. / - / *C 62
IBM 709 -- 32K -- 8 Takes / R(educational use)a Ss(15) Se(1958) Dc

Michael Flynn Mfg. Co., 700 E. Godfrey Ave., Philadelphia 24, Pa. / FIdelity 2-5500 / *C 61
Raised floor systems for E.D.P. installations / Ma Ms(500) Me(1935) Ic

FMA, Inc., 142 Nevada St., El Segundo, Calif. / EA 2-0072 / *C 62
Advanced electro-optical equipment: automated information storage and retrieval systems; binary code stored adjacent to microfilmed documents; rapid retrieval as screen image, photo print, or 35mm reel/film data processing equipment -- digital and analog film code recording, reading and converting equipment, magnetic drum checkout equipment / RMa Ms(150) Se(1959) Ic

Ford Instrument Co., Div. of Sperry Rand Corp., 31-10 Thomson Ave., Long Island City 1, N. Y. / STillwell 4-9000 / *C 61
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; thermionic devices / RMSa Ls(3000) Le(1915) DAICc

The Foxboro Co., 38 Neponset Ave., Foxboro, Mass. / KIngswood 3-8750 / *C 62
On-line process control computer, data logger, data accumulator, remote supervisory control system, in-output equipment, process control instrumentation / Ma Ls(2500) Le(1908) ICc

Franklin Electronics Inc., E. 4th St., Bridgeport, Pa. / BRoadway 2-4800 / *C 60
Data reduction systems; digital voltmeters / RMSa Ms(90) Se(1951) Ic

Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / NEptune 8-0700 / *C 62
Broad range of data processing and data collecting systems, including: Flexowriter, automatic writing machine with tape or card input/output; Collectadata 30 System with punched card transmitters, badge transmitters, time recorders, and tape receivers for data collection and attendance recording; CTP Computyper, automatic writing-computing machine with tape or card input/output and interchangeable program panels; Teledata, automatic tape transmitter-receiver which uses existing communications lines; Selectadata, automatic tape reader and data selector used with Flexowriters and Computypers; Code Converter, for tape-to-tape conversion; Add-punch, punched tape adding machine; remotely-controlled input/output devices and printers; special Flexowriters for pre-encoding checks with MICR symbols, for preparing tapes for numerical control of machine tools, for off-line use with electronic computers. Complete line of equipment for reading, punching, verifying, converting, regenerating, and transmitting paper tape, edge-punched cards, or tabulating cards. Also supplies used with data processing equipment. Adding machines. Automatic desk calculators / RMSa Ls(8100) Me(1934) DISCc

G

The Gamewell Co., 1238 Chestnut St., Newton Upper Falls 64, Mass. / BIgelow 4-1240 / *C 61
Precision potentiometers and rotary switches / Ma Ms(500) Le(1855) Ic

Gannett Fleming Corddry and Carpenter, Inc., 600 N. Second St., Harrisburg, Pa. / CEdar 8-0451 / *C 62
Consulting engineering firm with a 1620 IBM Computer and other EDP equipment, doing work for own organization plus operating a service bureau / Ca Ms(500) Le(1915, Computer Section in 1955) Ic

GAP Instrument Corp., 17 Brooklyn Ave., Westbury, L. I., N. Y. / EDgewood 3-8020 / *C 62
Servo gear trains, servo breadboards, step motors / Ma Ss(20) Se(1954) Ic

H. S. Gellman & Co. Ltd., 481 University Ave., Toronto 2, Ontario, Canada / EMpire 4-4247 / *C 62
Systems consultants specializing in automatic data processing and operations research / Ca Ss(15) Se(1955) DIc

General Automatics, Inc., 331 Alma St., Palo Alto, Calif. / DAvenport 1-8727 / *C 61
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 Computers, Inc., 9000 W. Pico Blvd., Los Angeles 35, Calif. / BRadshaw 2-6010 / *C 62
Analog computers, card programmed function generators, amplifiers, DC operational amplifiers, chopper amplifiers, self powered operational amplifiers / RMSa Ss(25) Se(1957) AIc

General Controls Co., 801 Allen Ave., Glendale 1, Calif. / VIctoria 9-2181 / *C 61
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 / Ma Ls(3000) Me(1936) CIc

General Data Corp., 1250 N. Parker St., Orange, Calif. / - / *C 62
Data processing accessories. Hi-speed A/D converters, low-level operational amplifiers, sample and hold devices, multiplexers / RMa Ss(10) Se(1959) Ic

General Dynamics/Astronautics a Div. of General Dynamics Corp., 5001 Kearny Villa Rd., San Diego 11, Calif. / - / *C 62
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. Computer controlled teaching machines and programs. Electronic image processing including both input and output data. Data processing and computing services on IBM 7090, 7070, 1401, and 650 computers / RMSCa Ls(1800) Se(1957) Ic

General Dynamics/Electronics, P. O. Box 2449, San Diego 12, Calif. / CYpress 8-8331 / *C 62
Computer readout devices, high speed electronic printers, high speed communications printers, microfilm recorders, plug-in and potted circuits, digital devices for display of computer information, input and visual output devices (the charactron), facsimile printing systems / RMa Ls(1500) Se(1955) DIc

General Dynamics/Electronics-Rochester, 1400 N. Goodman St., Rochester 1, N. Y. / - / *C 62
Digital computers, process control computers, statistical analog computers, data transmission systems, data logging systems / RMSCa Ls(4000) Le(1894) DAIc

General Dynamics/Pomona, Calif.1675 W. 5th Ave., Pomona, Calif. No longer in computer field.

General Electric Communication Products, Mountain View Rd., Lynchburg, Va. / VIctor 6-7311 / *C 62
Equipment providing the communications link for computer facilities / RMSCa Ls Le Ic

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., John St., Hudson Falls, N. Y. / 518-RH7-3341 / *C 61
Capacitors for electric and electronic applications / Ma Ls(1000 plus) Le(1878) Ic

General Electric Co., Computer Dept., 13430 Black Canyon Highway, Phoenix 23, Ariz. / Area Code 602, 941-2900 / *C 62
Information processing systems; computing and consulting services; computer time at Information Processing Centers; full line of peripheral equipment; manufacturing control equipment; data accumulation systems. Markets served: business, industrial, scientific, engineering and financial/ RMSC(program research and development)a Ls(3000) Se(1956) DAICc

General Electric Co., Defense Systems Dept., 300 South Geddes St., Syracuse, N. Y. / GR 6-4411, Ext. 6523 /

*C 61
General Electric Electronic System Evaluator. Analysis, design and implementation of small through large information systems including the functions of collection, reduction, manipulation, storage, retrieval and information presentations / RMSa Ls(2600) Se(1958) DAIc

General Electric Co., Electronic Speciality Capacitor Product Section, P. O. Box 158, Irmo, S. C. / ALpine 2-6332 / *C 62
Capacitors for computers / RMSa Ls(750) Le (before 1900) Ic

General Electric Co., Light Military Electronics Dept., French Rd., Utica, N. Y. / SW 7-1000 / *C 61
Light weight digital, analog, and hybrid computers for military applications from undersea to aerospace / RMSa Ls(7000) Se(1952) DAc

General Electric Co., Receiving Tube Dept., P. O. Box 1009, 316 E. Ninth St., Owensboro, Ky. / MUrray 3-2401 / *C 62
Glass and metal octal receiving tubes; miniature and sub-miniature glass receiving tubes; industrial receiving tubes; planar type metal-ceramic, miniature and micro-miniature ceramic receiving tubes for severe environments; Compactron multi-function receiving tubes; photoconductive tubes and cells; thermionic integrated micro-module circuits (TIMMS); and reed relay switches / RMSa Ls(7000) Le(1878) Ic

General Electric Co., Specialty Devices Operation, 1881 Lemoyne Ave., Syracuse, N. Y. / - / *C 62
Memory planes, delay lines, magnetic shift registers, logic modules, custom designed modules. Manufacturer of integrated electronic devices for computers and data processing equipment for both military and commercial areas. Engineering, manufacturing and marketing facilities for electronic materials such as semiconductors, e.g. single crystals, doped materials, and epitaxial materials. Also produce such items as parametric amplifiers and artificial larynx / RMSa Ms(300) Se(1957) Ic

General Instrument Corp., Rectifier Div., 65 Gouverneur St., Newark 4, N. J. / - / *C 62
Silicon and selenium rectifiers, Zener regulators, encapsulated circuit modules / Ma Ls(900) Se (1952) Ic

General Instrument Corp., Semiconductor Div., 96 Mill St., Woonsocket, R. I. / - / *C 62
Silicon and germanium diodes and transistors, precision resistors, microcircuits, microdiodes and microtransistors / Ma Ls(1375) Se(1954) Ic

General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / JAckson 5-4055 / *C 62
Services in: digital computer programming; programming research; computer test equipment. Programming services for all general purpose computers. Recommendation, design, and construction of automatic-programming-automatic-checking systems to fit specific needs. Mathematical studies; numerical analysis; data-reduction information retrieval; magnetic tape testers; magnetic tape ultrasonic cleaners; acceptance test equipment; problem solving / RMSPCa Ss Se(1954) DICMc

General Mills Electronics Group, 1620 Central Ave., Minneapolis 13, Minn. / STerling 9-8811 / *C 62
AD/ECS Digital Computer Systems, analog to digital converters, computer components, automatic handling and packaging equipment/ RMSa Ls(1500) Le(1928) DIMc

General Transistor Corp. -- merged with General Instrument Corp., which see

Genisco, Inc., 2233 Federal Ave., Los Angeles 64, Calif. / GR 9-4331 / *C 62
Analog pulse duration converter for conversion of any voltage analog input into digital output / RMa Ms Me(1946) Ic

The Geotechnical Corp., 3401 Shiloh Rd., Garland, Tex. / BR 8-8102 / *C 61
Analog data transmission equipment for radio or telephone circuits, data processing systems, automatic-processing film recorders, motorized film viewers. Geophysical and seismological instruments. Low-noise, low-frequency capability / RMSC(field programs)a Ms(350) Me(1936) DAICc

Giannini Controls Corp., 1600 S. Mountain Ave., Duarte, Calif. / - / *C 62
Data acquisition devices, automatic test equipment and controls, potentiometers, synchros and resolvers, tachometers, systems engineering, timing devices, transducers, servomechanisms / RMa Ls (1500) Me

Gille Associates, Inc., 22nd Floor Book Tower, Detroit 26, Mich. / WO 2-8040 / *C 61
Data processing monthly magazine, Data Processing Annual; data processing handbooks / Ss(25) Se (1952) Ic

Gilmore Industries, Inc., 3355 Richmond Rd., Cleveland 22, O. / 464-1200 / *C 62
Electronic control and data handling equipment; scanners, analog to digital converters, force instrumentation, transducer instrumentation, card to magnetic tape and paper tape converters, data loggers, automatic controls and equipment / RMSa Ms(80) Se(1953) DICc

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 62
Data recording, processing, and reduction equipment; cameras; counters; fire control equipment; geophysical apparatus; punch card machines and readers / RMSa Ms(112) Me(1945) Ic

GPE Controls, Inc., 240 E. Ontario St., Chicago 11, Ill. / WHitehall 4-3700 / *C 62
Components: Electric flow, position, and furnace pressure transmitters; floating indicator and ratio indicator controllers; electronic controllers; electro-hydraulic valve actuators; electric integrators / RMSa Ms(200) Me(1931) Ic

GPL Div. - General Precision, Inc., Pleasantville, N.Y. / ROgers 9-5000 / *C 62
Integrated data processing systems. Data processors and printers. Airborne computers / RMa Ls (1800) Me(1945) Ic

GPS Instrument Co., Inc., 180 Needham St., Newton 64, Mass. / DEcatur 2-8110 / *C 62
High-speed, high-accuracy repetitive analog computers, statistical and iterative types; computer center and services rental; computer components, function and noise generators, multiplier/divider, etc. / RMSCa Ss(38) Se(1955) AIc

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. / LIberty 8-2800 / *C 62
Ceramic capacitors; printed circuit boards; regulated power suppliers; magnetic and compression amplifiers; analog-to-digital and digital-to-analog converters; digital logic modules; digital encoders; amplitude probability and spectrum analyzers; magnetic tape editors; digital data acquisition systems; transducers; telemetering systems; programming services; systems engineering / RMSCGa Ls(1500) Me(1943) DAISc

H

Hagan Chemicals & Controls, Inc., Rte. 60 & Campbell's Run Rd., Pittsburgh 30, Pa. / WAlnut 2-3737 / *C 62
Open hearth, blast furnace and soaking pit control systems; magnetic amplifiers and control units; patchboards; combustion controls; electro-pneumatic converters; power positioners; temperature, pressure, flow level scanners / RMSC(technical field service)a Ls(1300) Le(1918) ICc

Herbert Halbrecht Associates, Inc., 332 So. Michigan Ave., Chicago 4, Ill. / HArrison 7-2876 / *C 61
Management consultants, personnel and executive recruitment specialists in the fields of Electronic Data Processing, Operations Research, Mathematical Sciences, and Scientific Management / Ca Ss (7) Se(1957) DIc

Hallamore Electronics Div. of the Siegler Corp., 714 N. Brookhurst St., Anaheim, Calif. / PRospect 4-1010 / *C 62
Analog and digital computers / RMCa Ls(1000) Me (1952) DAc

The Hallicrafters Co., 4401 W 5th Ave., Chicago 24, Ill. / *C 62
Digital communications equipment, special digital control equipment / RMa Ls(2800) Me(1933) DIc

Hammarlund Automation Div. of Telechrome Mfg. Corp., 185 Dixon Ave., Amityville, L.I., N. Y. / LI 1-3600 / *C 61
Data acquisition systems, analog-digital converters / RMS(engineering)a Ms(300) ?e DIc

Hammer Business Service, Rte. 2, Box 299, Manchester, N.H. / - / *C 62
Consulting, IBM punched card tabulating, Royal McBee-LGP-30 computer / C(processing)a Ss(4) Se(1961) Ic

Harman-Kardon Inc., Data Systems Div., Ames Ct., Plainview, L.I., N.Y. / OV 1-4000 / *C 62
Digital modules, digital systems, data processors / RMGPa Ms(450) Me(1949) DMCc

Harrison Laboratories, Inc., 45 Industrial Rd., Berkeley Heights, N.J. / 464-1234 / *C 61
Highly regulated DC power supplies, product development / Ma Ms(50) Se(1954) Ic

Harvey-Wells Electronics, Inc., 14 Huron Drive, Natick, Mass. / CEdar 5-7372 / *C 62
Digital computers, digital systems, instruments, components / RMa Ss(35) Se(1960) DIc

Hathaway Instruments Inc., 5800 E. Jewell Ave., Denver 22, Colo. / SKline 6-8301 / *C 62
Commutators, rotary stepping switches, audio response plotter, drireed switches / RMSCa Ms(400) Me(1940) Ic

The A. W. Haydon Co., 232 N. Elm St., Waterbury 20, Conn. / PL 6-4481 / *C 62
AC and DC timing motors, custom designed timing devices, elapsed time indicators, electronic timers, time delay relays, intervalometers, repeat cycle timers, stop clocks, subminiature timers; automatic controls, tachometers. Stepping and encoding devices / MSa Ms(500) Me(1945) ICc

Edward Bernard Healy, Jr., Management Consultant, One 74th St., Brooklyn, N.Y. / Shore Road 5-7027 / *C 61
Management counsel in systems analysis; equipment evaluation; organization and facilities planning; personnel recruitment, testing, selection and training; installation programs for electronic computer and other automatic data processing systems in business, industry, and government / CGPa Ss(1) Se(1959) Dc

Heath Co., subsidiary of Daystrom Inc., Hilltop Rd., Benton Harbor, Mich. / YUkon 3-3961 / *C 62
Analog computers and components in easy to build kit form / MSa Ls(575) Me(1946) AIc

Hermes Electronics Co., 75 Cambridge Parkway, Cambridge 42, Mass. / UNiversity 4-7200 / *C 61
Digital timing and magnetic tape search units, precision oscillators, language translators and film readers / RMa Ms(240) Se(1955) Ic

Hewlett-Packard Co., 1501 Page Mill Rd., Palo Alto, Calif. / DAvenport 6-7000 / *C 62
Electronic test equipment, oscilloscopes, AC and DC VTVM'S, oscillators, electronic counters, digital-to-analog converters, digital recorders, frequency and time standards, etc. / MSa Ls(3000) Me(1939) DAIc

Hillburn Electronic Corp., 55 Greenpoint Ave., Brooklyn, N.Y. / - / *C 62
Stepping switches / Ma Ss(35) Me(1945) Ic

S. Himmelstein & Co., 3300 W. Peterson Ave., Chicago 45, Ill. / IRving 8-9850 / *C 62
Consulting and design engineering services associated with magnetic storage and peripheral devices / RCa Ss(4) Se(1960) DIc

Hoffman Electronics Corp., Semiconductor Div., 1001 N. Arden Dr., El Monte, Calif. / CU 3-7191 / *C 61
Silicon diodes, silicon transistors, silicon photovoltaic "readout" cells and capsules / RMSa Ls(1000) Se(1953) Ic

Hogan Faximile Corp., a subsidiary of TELautograph Corp., 635 Greenwich St., New York 14, N.Y. / CHelsea 2-7855 / *C 61
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(85) Le(1928) Ic

Hollander Associates, P. O. Box 2276, Fullerton, Calif. / TRojan 1-4918 / *C 62
Design and consulting in general and special purpose computers and their application to business, control, communications switching, and defense; including technical liaison overseas / RCa Ss(5) Se(1961) DASCc

G. L. Hollander Associates -- name changed to Hollander Associates, which see

Honeywell Electronic Data Processing Div., 60 Walnut St., Wellesley Hills 81, Mass. / CEdar 5-7450 / *C 61
Electronic data processing systems. Sales, rental service bureau / RMSa Ls(3000) Se(1955) DIc

The Hoover Company, Electronics Div., P. O. Box 181, Baltimore 3, Md. / CLearbrook 2-4000 / *C 62
Special digital data processing systems, telemetering systems and components / RMa Ms(100) Se(1952) DIc

Houston Instrument Corp., P. O. Box 22234, Houston 27, Tex. / - / *C 62
Electronic instruments / Ma Ss(45) Se(1959) Ic

HRB-Singer, Inc., a subsidiary of The Singer Mfg. Co., 396 Fifth Ave., New York 18, N.Y. / - / *C 62
Data processing systems -- sales and service; SEMA and SIM Systems: digital electronic memory systems for punched card, paper tape and direct input/output; high speed punched paper tape reader; auxiliary plugboard wiring devices / RMSC(data processing services)a Ls(900) Me(1947) DIc

Hughes-Fullerton, 1401 Malvern Ave., Fullerton, Calif. / TRojan 1-3232 / *C 61
Radar tracking equipment, programmable computers, special purpose computers / RMa Ls(7000) Le (1935) Ic

Hughes Semiconductor Div., 500 Superior Ave., Newport Beach, Calif. / LI 8-0671 or MA 9-3271 / *C 62
Silicon and germanium diodes, microminiature diodes and transistors, silicon transistors,

silicon power rectifiers, packaged assemblies, micro weld modules, capacitors, voltage regulator diodes / Ma Ls(1800) Me(1951) Ic

Hydro Molding Company, Inc., 100 Sharron Ave., Plattsburgh, N.Y. / JOrdan 1-5320 / *C 62
Precision molded plastic components / Ma Ms(125) Se(1950) Ic

Hydropoise Inc., 230 S. Wells Fargo Ave., Scottsdale, Ariz. / - / *C 62
Turbine type flow meters and associated readout and control equipment / RMSa Ss(10) ?e Ic

I

The I.D.R. Co. (Industrial Data Reduction), 4740 Spruce St., Philadelphia 39, Pa. / GRanite 2-5023 / *C 62
Full line data processing with specialty of publishing industry services / Cc ?s Se(1961) DIc

Image Instruments, Inc., 2300 Washington St., Newton Lower Falls 62, Mass. / WO 9-8440 / *C 62
Recording storage tube systems, scan converters, computer data display storage / RMa Ss(25) Se(1958) Ic

IMC Magnetics Corp., Arizona Div., 917 W. Madison, Phoenix, Ariz. / ALpine 4-7294 / *C 60
Hydraulic and pneumatic valves, pressure switches, pressure regulators, filters, accumulators / RMSa Ss(30) Se(1956) Ic

IMC Magnetics Corp., Eastern Div., 570 Main St., Westbury, L.I., N.Y. / EDgewood 4-7070 / *C 61
Blowers and fans, hysteresis synchronous motors, torque motors, servo motors, induction motors. Blowers and fans used for cooling electronic equipment; motors used as tape drives and in closed loop servo systems / Ma Ms(200) Se(1951) Ic

IMC Magnetics Corp., Gray & Kuhn Div., 80 Swalm St., Westbury, L.I., N. Y. / EDgewood 3-2194 / *C 60
Delay lines, filters, toroids / RMSa Ms(60) Se(1956) Ic

IMC Magnetics Corp., Western Div., 6058 Walker Ave., Maywood, Calif. / LUdlow 3-1785 / *C 62
Linear and rotary solenoids, step-servo motors, synchros, resolvers, digital to shaft angle converters / Ma Ms(150) Me(1946) Ic

Imm Industries, 12160 Victory Blvd., No. Hollywood, Calif. / TRiangle 7-0394 / *C 62
Digital computers, special-purpose analog computers, digital and analog servomechanisms, stepper motors, solid-state switching circuits, logic drivers, pulse generators, voltage-to-pulse converters / RMSCa Ms(65) Se(1961) DAISc

Imtra Corp., 11 University Rd., Cambridge 38, Mass. / UNiversity 4-4350 / *C 61
Magnetic storage drums, importer; tape, punches and readers / Ba Ss(2) Se(1952) Ic

Indiana General Corp., Electronics Div., Crows Mill Rd., Keasbey, N.J. / VAlley 6-5100 / *C 62
Ferramic memory cores, memory planes, arrays, microstacks, memory systems, buffers, large memory systems / RMSa Ls(550) Le(1908) Ic

Indiana General Corp., Magnet Div., 405 Elm St., Valparaiso, Ind. / HOward 2-3131 / *C 62
Permanent magnets / RMSCa Ls(750) Le(1908) Ic

Indiana Steel Products, Div. of Indiana General Corp. -- name changed to Indiana General Corp., Magnet Div., which see

Industrial Development Engineering Associates, Inc. (I.D.E.A., Inc.) -- name changed to Regency Electronics, Inc., which see

Industrial Nucleonics Corp., 650 Ackerman Rd., Columbus 2, Ohio / AMherst 7-6351 / *C 62
AccuRay industrial process measurement and automatic control systems, data reduction and readout systems for paper, plastics, metal and other industries / RMSa Ms(500) Se(1950) CIc

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

Informatics, Inc., P. O. Box 5569, Sherman Oaks, Calif. / - / *C 62
Complete systems and programming services / Ca Ss Se(1962) Ic

Information Products Corp., 156 Sixth St., Cambridge, Mass. / ELiot 4-1206 / *C 62
Random access file interrogators, computer input and display equipment, data editing equipment, symbol generators, coding keyboards / Ma Ss(27) Se(1961) Ic

Information Systems, Inc., 7350 North Ridgeway Ave., Skokie, Ill. / ORchard 5-2500 / *C 61
General purpose digital computer and industrial information systems / RMSCa Ms(400) Se(1959) DCc

Information Systems, Inc., Computer Div., 10131 National Blvd., Los Angeles 34, Calif. / UPton 0-4671 or VErmont 7-5333 / *C 61
Digital computer systems, disc and drum memories, punched card and punched tape readers, digital indicators / RMSa Ms(150) Se(1958) DIc

Ingenjörsfirma Nordisk ADB, Pyramidv. 9D, Solnal, Sweden (subsidiary companies: Nordisk ADB Deutsche Gmbh Düsseldorf/Holthausen Bonner Strasse 117, Germany; Nordisk ADB, Woerner and Co., Rämistrasse 8, Zürich 1, Switzerland; Iberica ADB, Torre de Madrid, Spain) / 820270 / *C 62
Consulting engineers in civil engineering and data processing. Specializing in road planning and construction, and structural calculations / RCa Ss(25) Se(1959) Ic

The Institute of Management Sciences, P. O. Box 273, Pleasantville, N.Y. / *C 62
Non-profit scientific society, publishers of quarterly journal "Management Science" / Se(1954) Ic

Institute for Scientific Information, Inc., 33 So. 17th St., Philadelphia 3, Pa. / LO 4-4400 / *C 62
Consulting, research, publications, facsimile hardware, information engineering; publishers of current contents of space, electronic and physical sciences / RC(publishing)a Ms(75) Se(1955) Ic

Instrument Control Co., 2309 Snelling, Minneapolis 4, Minn. / PA 1-5335 / *C 61
Spot welder control systems / RMSa Ss(40) Me(1945) Ic

Instrument Development Laboratories, Inc., 67 Mechanic St., Attleboro, Mass. / CAstle 2-3880 / *C 61
A-D converters, rotary switches, pyrometers, colorimeters. Research, development, production of precision components to customer order / RMSa Ms(200) Me(1947) DAIc

Instrument Society of America, Penn-Sheraton Hotel, 530 Wm. Penn Place, Pittsburgh 19, Pa. / ATlantic 1-3171 / *C 62
Professional, technical society serving the field of instrumentation, data handling, computation, and automatic control systems. Publishes "ISA Journal" / PCa Ss(42) Me(1946) Ic

Intercontinental Dynamics Corp., 170 Coolidge Ave., Englewood, N.J. / LOwell 7-3600 / *C 62
Random noise generators / RMSa Ss(45) Se(1956) Ic

International Business Machines Corp., 590 Madison Ave., New York 22, N.Y. -- see International Business Machines Corp., Data Processing Div.

International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N.Y. / WH 9-1900 / *C 62
Complete line of data processing systems and equipment, including the IBM RAMAC 305 (Model 2), 1401, 1410, 1620, 7040, 7044, 7070, 7072, 7074, 7080, 7090 and 7094 data processing systems; 1710 control system; magnetic character sensing equipment; optical character readers; Teleprocessing systems including data collection and transmission equipment; and a full line of punched card equipment including the low-cost Series 50. Also punched cards, magnetic tape, magnetically encoded paper checks, and other supplies used in conjunction with data processing systems / RMSa Ls(116,000) Le(1914) DICc

International Business Machines Corp., Federal Systems Div., 326 E. Montgomery Ave., Rockville, Md. / GA 4-6700 and HA 7-4110 / *C 62
Electronic information handling and control systems for U.S. government space, defense, and civil programs. Systems management, systems development, research, engineering, production, installation, and field support / RMSGC (systems) a Ls(12,000) Se(1955) DAc

International Computers and Tabulators, Ltd., Gloucester House, 149 Park Lane, London W.1, England / HYde Park 8080 / *C 61
Punched card equipment and electronic digital computers, card to paper tape converters, paper tape to card converters, data processing and recording equipment, magnetic drums, input-output devices, memory systems, office machines, line-a-time and high speed printers, magnetic card paper tape and punch card readers, magnetic tape filing systems, readers, and recorders, paper tape / RMSCa Ls (20,000) Le(1908) DISc

International Diode Corp., 90 Forrest St., Jersey City 4, N.J. / HE 2-0242 / *C 61
Germanium crystal computer diodes with high switching speeds / RMSa Ss(15) Se(1959) Ic

International Electric Corp., Rt. 17 and Garden State Parkway, Paramus, N.J. / COlfax 2-6800 / *C 62
Total systems management including: systems research, systems engineering, programming, systems simulation, field engineering, weapons interface, logistics, research and development / RC (electronic systems management) a Ls(1000) Se(1958) Ic

International Rectifier Corp., 233 Kansas St., El Segundo, Calif. / ORegon 8-6281 / *C 62
Complete line of general purpose silicon diodes, zener voltage regulator diodes, silicon controlled rectifiers, silicon readout photocells / RMSa Ls(950) Me(1947) Ic

International Resistance Co., 401 N. Broad St., Philadelphia 8, Pa. / WAlnut 2-8900 / *C 62
Resistors (composition, film, power and precision wire wound and special application); potentiometers, flexible etched circuits; multiconductor flat wire cable; displacement transducers; low pressure cell; rectifiers / RMSa Ls(2500) Le (1927) Ic

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

Invac Corporation, 26 Fox Rd., Waltham 54, Mass. / - / *C 62
Peripheral input/output equipment, punched paper tape equipment / RMa Ms(56) Se(1959) Ic

Itek Electro-Products, Inc., Div. of Itek, Inc., 75 Cambridge Parkway, Cambridge 42, Mass. / UN 4-7200 / *C 61
Data translators, tape search units, digital clocks for precision timing, crystal filters / RMSa Ms(250) Se(1955) Ic

The ITT Data Processing Center, Rte. 17 and Garden State Parkway, Paramus, N.J. / COlfax 2-8700 / *C 62
A complete range of services from computer time to systems analysis design and programming are available through our IBM 7090, 1401 and supporting equipment and our 200 programmers and analysts who have a wide diversity of backgrounds on a wide variety of computers. Direct communications data links between customer's office and our facility. Equipment is available on an hourly or repetitive basis / RC (data processing services) a Ms(250) Se(1961) Ic

ITT Federal Div., International Tel. & Tel. Corp., 100 Kingsland Rd., Clifton, N.J. / NOrth 7-3600 / *C 60
Radar, Elm, and sonar simulators, missile, aircraft, guidance, radar and weapon system automatic checkout equipment / Ma Ls(4000) Le(1920) Ic

ITT Federal Laboratories, a Div. of International Tel. and Tel. Corp., 500 Washington Ave., Nutley 10, N.J. / NOrth 1-1100 / *C 62
ITT 025 data processor / RMa Ls(6000) Le(1920) Dc

ITT Information Systems Div., 320 Park Ave., New York 22, N.Y. / - / *C 62
Telegraph and data switching system -- ITT 7300 ADX System / RMSa Ms(250) Se(1961) DACc

ITT Kellogg (formerly Kellogg Switchboard & Supply Co.), 6650 So. Cicero Ave., Chicago 38, Ill. / POrtsmouth 7-6900 / *C 60
Complete switching systems for industrial applications. Wire transmission equipment, telephone switching equipment, digital computing equipment, radio multiplexing equipment / RMSCa Ls(3500) Le(1897) DIc

J

Jefferson Electric Co., 25th and Madison Sts., Bellwood, Ill. / MAnsfield 6-7161 / *C 61
Constant voltage and low voltage control transformers / Ma Ls(1300) Le(1915) Ic

Johnson Electronics Inc., Highway 17-92, P. O. Box 1675, Casselberry, Fla. / TErrace 8-2111 / *C 61
Toroids, sub-miniature and pulse transformers, magamps, embedded assemblies and components, cable assemblies, amplifiers, coils, electrical converters, power supplies, electric magnets / Ma Ms(100) Se(1951) Ic

Jonker Business Machines, Inc., 26 N. Summit Ave., Gaithersburg, Md. / WIndsor 8-9203 / *C 62
Termatrex and Minimatrex information and data retrieval equipment and information services, including consulting, indexing and abstracting / RMSCa Ss(35) Se(1960) Ic

K

Kalvar Corp., 909 So. Broad St., New Orleans, La. / 822-1600 / *C 61
Film for input services / RMSa Ss(45) Se(1956) Ic

Kay Electric Co., Maple Ave., Pine Brook, N.J. / CApital 6-4000 / *C 62
Electronic test instruments / Ma Ms(130) Me(1947) Ic

KCS Ltd., 20 Spadina Rd., Toronto 4, Ont., Canada / 924-3381 / *C 62
Management and technical consultants: electronic computing data processing, operations research, economic surveys, statistical analyses, feasibility studies. Services: high-speed computing, data processing, tabulating / RCa Ms(65) Se (1954) Dc

Kearfott Co., Inc., Clifton, N.J. / GRegory 2-1000 / *C
Analog-digital converter; digital-analog converter; servo motors, synchros, resolvers, integrating tachometer generators; analog and digital computers / RMSa Ls(3000) Le(1916) DAISc

A. T. Kearney & Co., 135 So. LaSalle St., Chicago 3, Ill. / STate 2-2868 / *C 61
Management consultants, technical service in applications of all brands of equipment in data processing field to industry, transportation, government and commerce / Ca Ms(100, plus) Me (before 1935) DAISCMc

Kelvin Electric Co., 5909 Noble Ave., Van Nuys, Calif. / - / *C 62
Precision wire wound resistors and resistor networks / Ma Ms(140) Se(1957) Ic

Kepco, Inc., 131-38 Sanford Ave., Flushing 52, N.Y. / IN 1-7000 / *C 62
Manufacturers of dc regulated power supplies / RMSa Ms(150) Me (1946) Ic

Ketay Dept., Norden Div., United Aircraft Corp., Jericho Turnpike, Commack, N.Y. / FOrest 8-5500 / *C 61
Synchros, resolvers, gyroscopes, servo motors, amplifiers, tachometers, potentiometers, magnetic shaft angle encoders / RMSa Ms(500) Me(1944) ISc

Kidde Ultrasonic & Detection Alarms Div., Walter Kidde & Co., Inc., 441 Brighton Rd., Clifton, N.J. / GRegory 2-5000 / *C 62
Automatic fire detection systems; engineered proprietary alarm systems console; ultrasonic, photoelectric, and capacitance burglar alarm systems; temperature monitoring systems / RMSCa Ls Le (1917) ICc

Walter Kidde & Co., Inc., Kidde Electronics Laboratories, 441 Main St., Belleville 9, N.J. / PLymouth 9-5000 / *C 62
Static relays, varistors, static inverters, static converters, and solid state power supplies / RMSCa Ls Ls(1917) ICc

Walter Kidde & Co., Inc., Industrial & Marine Div., 441 Main St., Belleville 9, N.J. / PLymouth 9-5000 / *C 62
Fire detecting and extinguishing equipment / RMSCa Ls Le(1917) ICc

A. Kimball Co., 8 Rewe St., Brooklyn 11, N.Y. / STagg 2-2701 / *C 62
Data coded tag producer; converter of binary to decimal. Kimball PM75 print-punch machine; KR reader, reads tags, converting into punched cards / RMSCa Ls(550) Le(1876) Ic

The Walter S. Kraus Co., 48-02 43 St., Woodside 77, N.Y. / STillwell 4-5922 / *C 62
Electronic controls for exact control / RMa Ss (17) Me(1941) Ic

L

Laboratory for Electronics, Inc. -- see LFE Electronics

Laboratory for Electronics Inc., Monterey Laboratory, 305 Webster St., Monterey, Calif. / - / *C 62
Computer programming for scientific, engineering and data handling applications. Military and industrial operations research. Systems analysis, mathematical modeling, simulation, conceptual design of large-scale systems / RCa Ss(40) Me (1945) -

Land-Air, Inc., Stepper Motors Division, 16226 S. Broadway, Gardena, Calif. / FAculty 1-5811 / *C 61
Relays -- telephone, power and dry-reed. Stepping motors / RMa Ms(150) Me(1949) Ic

Land-Air, Inc., Subsidiary of California Eastern Aviation, Inc., 7444 W. Wilson Ave., Chicago 31, Ill. / UNderhill 7-7550 / *C 61
Computer service using Electronics Associates' 1631 analog computer and Bendix G-15 digital computer / RMSCa Ls(2500) Me(1946) DAc

Landis & Gyr, Inc., 45 West 45th St., New York 36, N.Y. / JUdson 6-4644 / *C 61
Impulse counters, single decade impulse counters, add-subtract and totalizing counters, printing counters / MSa Ls(over 10,000 in this and associated companies -- 17 this office) Le(1927) Ic

Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia 44, Pa. / DAvenport 9-4900 / *C 61
Analog and digital computers for industrial process applications; also data loggers for industrial use / RMSa Ls(3000) Le(1900) DAIc

LFE Electronics, A Div. of Laboratory for Electronics, Inc., 985 Commonwealth Ave., Boston 15, Mass. / ALgonquin 4-4233 / *C 62
HD (high density) file drums; flexible rotating storage disks (Bernoulli Disks); display devices; random access & storage systems; computer programming; operations research; systems analysis; read/write heads; memory systems. Advanced research in special devices and applied research for the computer field; data recording equipment; data reduction equipment; magnetic disks, magnetic drums; magnetic storage systems; logical circuits; plug-in circuits; delay lines / RMSCPa Ls(2500) Me(1946) DAIc

Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / CItrus 4-6541 / *C 62
Data processors and computers for air traffic control, business, industrial control, spacecraft guidance, antisubmarine warfare, aircraft navigation and science; computer controls and electronic test equipment; explosive ordance devices / RMS a Ls(4000) Me(1937) DAICc

Link Division, General Precision, Inc., Binghamton, N.Y. / RA 3-9311 / *C 62
Special purpose analog, digital and hybrid computers; process control and flight simulators; photogrammetric systems; pattern and character recognition systems / RMa Ls(2500) Le(1929) DAICc

Edwin A. Lipps Engineering, 1511 Colorado Ave., Santa Monica, Calif. / EXbrook 3-0449 / *C 62
Micro-magnetic instruments; magnetic tape recording and reading heads; consulting services; memory systems; magnetic tape readers / RMSCa Ms (150) Me(1948) Ic

Liskey Aluminum, Inc., Box 506, Glen Burnie, Md. / CIrcle 2-7300 / *C 61
Computer-room free-access flooring / MSCa Ms (100) Se(1958) Ic

Littelfuse, Inc., 1865 Miner St., Des Plaines, Ill. / VAnderbilt 4-1188 / *C 62
Fuses, fuse posts, fuse mountings, and other circuit protective devices / Ma Ms(500) Le(1927) Ic

Litton Systems Inc., Data Systems Div., 6700 Eton Ave., Canoga Park, Calif. / DI 6-4040 / *C 61
Command and control systems; display consoles and displays / RMSa Ls(2200) Se(1953) ICc

Litton Industries, Electronic Equipments Div., 336 No. Foothill Rd., Beverly Hills, Calif. (also Potentiometer Div., 215 S. Fulton Ave., Mt. Vernon, N.Y.) / CR 4-7411 / *C 60
Inertial navigation systems, digital differential analyzers, airborne data processing systems, airborne computers, flight control systems, analog-digital converters, accellerometers. Precision potentiometers, resistors / RMSa Ls(19,700 all divisions) Se(1953) DAICc

Litton Systems, Inc., Guidance and Control Systems Div., 5500 Canoga Ave., Woodland Hills, Calif. / DIamond 6-4040 / *C 61
Special and general purpose digital computer systems; inertial and celestial navigation equipment; ground support equipment; shaft encoders; accelerometers; gyroscopes; alpha/numeric read-outs; module testers; and magnetic drum fill and clock track recorders / RMSc Ls(7500) Se(1953) DIc

Lloyd Industries, 40 Grove St., So. Hackensack, N.J. / HUbbard 8-7770 / *C 62
Ultra-precise code discs / Ma Ss(10) Se(1959) / Ic

Lockheed Electronics Co., U.S. Highway 22, Plainfield, N.J. / PL 7-1600 / *C 62
Military and industrial electronic systems and components / RMSCa Ls(20,000) Me(1945) DAc

Lockheed Electronics Co., Avionics and Industrial Products Div., 6201 E. Randolph St., Los Angeles 44, Calif. / OV 5-7070 / *C 62
Electronic ceramics consisting of ferrites, ferrite cores, memory planes, logic module assemblies, multi-aperture devices, recording heads, and memory units / RMa Ls(600) Se(1959) Ic

Lockheed Electronics Co., Information Technology Div., U.S. Highway No. 1, Metuchen, N.J. / LIberty 9-4430 / *C 60
Special purpose computers, data processing systems, data storage, data display, data reduction and digital timing devices / RMS(application engrg, installation)a Ms(200) Me(1945) DAIc

Logabax S. A., 146, Champs Elysees, Paris 7, France / Elysee 61-64 / *C 60
198 and 207-register automatic accounting machines; several hundred headings analyzing equipment "TELEBAX." Automatic connection with punch card or computing machines / RMSa Ls(700) Se(1949) Dc

Loral Electronics Corp., 825 Bronx River Ave., New York 72, N.Y. / TI 2-9500 / *C 62
Special purpose digital and analog computers / RMSCa Ls(2100) Me(1948) DAc

Loyola Laboratories, P. O. Box 90074, Airport Station (6415 W. 89th St.), Los Angeles 45, Calif. / OR 8-1686 / *C 61
Consulting. Sampling integrator (VANNUS I) built on request / RMCa Ss(3) Se(1956) Ic

Lumen, Div. of Telex, Joliet, Ill. / - / *C 61
Magnetic amplifiers / MSa ?s ?e Ic

M

Mace Corp., 900 N.E. 13th St., Ft. Lauderdale, Fla. / - / *C 62
Magnetic amplifiers, servo-amplifiers, magnetic computer readout devices, power magamps, frequency detectors, magnetic relays, magnetic focusing devices, electro-mechanical assemblies / RMSCa Ss(40) Se(1961) Ic

Machine Computing Services, 138 S. Second East, Salt Lake City 11, Utah / DAvis 8-9446 / *C 62
Broker of idle computer and punched card equipment time / SCa Ss(8) Se(1960) DIc

F. B. MacLaren & Co., Inc., 15 Stepar Place, Huntington Station, L.I., N.Y. / HA 3-4433 / *C 62
Analog computers, servo systems, servo amplifiers / Ma Ss(10) Me(1950) AIc

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

Magne-Head Div., General Instrument Corp., 3216 W. El Segundo Blvd., Hawthorne, Calif. / SPring 2-2351, OSborne 9-3377 / *C 62
Magnetic memory drums, read/write circuitry, magnetic drum and tape heads / RMSa Ms(165) Se(1956) Ic

Magnetic Research Corp., 3160 W. El Segundo Blvd., Hawthorne, Calif. / OSborne 5-1171 / *C 62
Components / Ma Ms(100) Se(1952) ICc

Magnetics Inc., Butler, Pa. / BUtler 7-1745 / *C 62
Design, manufacture and sell (through company sales force and reps) high permeability bobbin cores, ceramic and stainless steel, for computer shift registers and buffers. Other products: tape wound cores, permalloy powder cores, nickel laminations / RMSa Ms(385) Me(1949) Ic

P. R. Mallory & Co., Inc., 3029 E. Washington St., Indianapolis 6, Ind. / ME 4-8674 / *C 62
Computer grade capacitors, silicon rectifiers, contacts / RMSa Ls(6000) Le(1916) Ic

Management Assistance Inc., 40 Exchange Pl., New York 5, N. Y. / HA 2-1234 / *C 62
An integrated data processing company specializing in the leasing of used IBM business machines. Also offer systems engineering and data processing consulting services. Data Centers are maintained in New York City and Chicago. WROC special purpose devices are used to expand the capacity of IBM tabulating machines / RSCPa Ms(70) Se(1955) Ic

Management and Business Automation -- name changed to Business Automation, which see

Management Science Training Institute, 430 Park Ave., New York 22, N.Y. / - / *C 62
Training courses in specialized areas of management science such as information retrieval, data communications, programming, programmed learning and teaching machines, marketing, managing an ADP Center, etc. Conducted by senior members of the professional staff of The Diebold Group, Inc. / Pa ?s ?e Ic

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 Corp., 155 Waverly Place, New York 14, N.Y. / ORegon 5-1384 / *C 62
Precision potentiometers; conductive plastic type. Rotary and rectilinear configuration; both functional and linear output, for computers and servo controls; conductive plastic type precision rotary switches / RMSa Ms(325) Me(1946) Ic

Mathematischer Beratungs -- und Programmierungsdienst GmbH., Dortmund, Kleppingstr. 26, Germany / 2 63 53 / *C 61

Consulting for all problems of data processing with punch card machines or electronic computers; problem analysis and problem solving on electronic computers; organization of flow of data, programming; operations research / RCPa Ss(35) Se(1957) DAIc

Mauchly Associates Inc., Ft. Washington Industrial Pk., Ft. Washington, Pa. / - / *C 62
Special purpose computers, management services, specializing in planning and scheduling techniques / MCa Ms(50) Se(1959) DAIc

Maurey Instrument Corp., 7917 S. Exchange Ave., Chicago 17, Ill. / REgent 1-1717 / *C 61
Potentiometers: precision, single-turn, wirewound, linear, non-linear / RMSCa Ms(66) Se(1953) Ic

Maxson Electronics Corp., 475 Tenth Ave., New York 18, N. Y. / LOngacre 5-1900 / *C 62
Design, research, development, electronic, electromechanical systems and equipment for aviation, missile and ordnance application. Amplifiers, automatic control equipment, plotting boards, computers, fire control equipment, regulated power supplies, telemetering, antennas, communication, test equipment / RMa Ls(847) Me(1935) DAICc

H. B. Maynard & Co., Inc., 718 Wallace Ave., Pittsburgh 21, Pa. / FRemont 1-9600 / *C 62
Feasibility studies, cost reduction programs to insure most effective use of equipment and staff / Ca Ms(100) Me(1934) Ic

McDonnell Aircraft -- see McDonnell Automation Center, Div. McDonnell Aircraft Corp.

McDonnell Automation Center, Div. McDonnell Aircraft Corp., Box 516, St. Louis 66, Mo. / PErshing 1-2121 / *C 62
Consulting, systems design and programming services for the businessman or scientist. Data processing and computing services in both analog and digital areas, utilizing PACE and CEAC. Analog computers, IBM 1620, 305, 7080, 1401, 7090 and conventional unit record equipment / RMSCa Ms(420) Se(1960) DAIc

Memorex Corp., 1180 Shulman Ave., Santa Clara, Calif. / CHerry 8-3344 / *C 62
Magnetic tape / RMSa Ms(50) Se(1961) Ic

Mesa Scientific Corp., 12838 Weber Way, Hawthorne, Calif. / OR 8-5401 / *C 62
Consulting in systems engineering, logic design, and circuit design related to computers, automatic test equipment, guidance and control systems. Mathematical analysis, computer programming and development of programming systems. Consultants to industry and government on data processing, missiles, satellites, and ground support equipment / Ca Ss(25) Se(1957) Ic

Micro Switch, 11 W. Spring St., Freeport, Ill. / ADams 2-1122 / *C 62
Precision snap-action switches and mercury switches / MSa Ls(2500) Me(1937) Ic

Micro Switch, a div. of Minneapolis-Honeywell Regulator Co., 11 W. Spring St., Freeport, Ill. / ADams 2-1122 / *C 62
Precision snap-action switches and mercury switches / MSa Ls(2500) Me(1937) Ic

Microtran Co., Inc., 145 E. Mineola Ave., Valley Stream, N. Y. / LOcust 1-6050 / *C 62
Transformers / Ma Ms(100) Se(1951) Ic

Midwest Research Institute, 425 Volker Blvd., Kansas City 10, Mo. / LOgan 1-0202 / *C 62
Studies in application of digital and analog computers to business and scientific problems; mathematical analysis and computation; computing service; IBM 1620; contract research; economics research; operations research; systems engineering; information retrieval, digital and analog simulation / Ra Ms(300) Me(1944) DAIc

Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / NAtional 7-1111 / *C 62
M3000 digital tape systems, analog and audio tape recorder/reproducers, facsimile recorders, recording oscillographs, servo components, telemetry systems and amplifiers / RMSGa Ms(500) Me(1950) DASCc

Miles Reproducer Co., Inc., 812 Broadway, New York 3, N. Y. / SPring 7-7670-1 / *C 62
Self-powered miniature sound recorder and reproducer / Ma Ms(54) Le(1924) Ic

H. Jefferson Mills, Jr., Management Consultant, 375 Park Ave., New York 22, N. Y. / PL 3-4260 / *C 61
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

Mincom Div., Minnesota Mining and Manufacturing Co., 2049 S. Barrington Ave., Los Angeles 25, Calif. / BRadshaw 2-9971 and GRanite 9-3751 / *C 61
General instrumentation recorder-reproducers and video band recorder-reproducers / RMSa Ms(250) Me(1949) Ic

Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility, 13350 U.S. Highway 19, St. Petersburg, Fla. / HEmlock 5-1151 / *C 62
Airborne digital general purpose and digital differential analyser high speed computers, memory drums, buffer memory systems, digital encoders, pulse generators, SCR switches / RMa Ls(1500) Le(1875) DIc

Minneapolis-Honeywell Regulator Co., Boston Div., 40 Life St., Boston 35, Mass. / ALgonquin 4-5200 / *C 60
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) SIc

Minneapolis-Honeywell Regulator Co., Industrial Products Group, Wayne & Windrim Aves., Philadelphia 44, Pa. / DA 9-8300 / *C 61
Digital computers; analog data recorder-transcriber; simulators / RMSa ?s Le(1885) DAIc

Minneapolis-Honeywell Regulator Co., Industrial Systems Div., 10721 Hanna St., Beltsville, Md. / GRanite 4-6700 / *C 60
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

Minneapolis-Honeywell Regulator Co., Special Systems Div., Queen & So. Bailey Sts., Pottstown, Pa. / FA 3-4000 / *C 61
General purpose digital computer for on-line real-time applications; digital data handling systems; special purpose analog computer systems; development, assembly, and maintenance of these systems / MSCa Ls(over 500) Se(1960, Special Systems Div.) DAIc

Minnesota Mining and Manufacturing Co., 900 Bush Ave., St. Paul 6, Minn. / PR 6-8511 / *C 61
Magnetic instrumentation tape and accessories / RMSa Ls(19,000) Le(1902) Ic

Minute Maid Co., Data Processing Div., 1200 W. Colonial Dr., Orlando, Fla. / GA 4-2225 / *C 61
Office system and management services, including service bureau for converting paper tape to cards and processing IBM cards. IBM 1401 and NCR 304 services available in late 1961 / Ca Ss(40) Me (1947) DIc

Mitre Corp., P. O. Box 208, Bedford, Mass. / CR 4-9100 /

*C 62
Systems engineering -- technical advisor to Air Force Electronic Systems Div. / RCPa Ls(1700) Se(1958) Ic

Monarch Metal Products, Inc., MacArthur Ave., New Windsor (Newburgh), N. Y. / JOhn 2-3100 / *C 62
Data processing accessory equipment and tape handling and storage equipment / RMSa Ms(80) Me(1945) Ic

Monitor Systems, Inc., Dept. D-1, Fort Washington Industrial Park, Fort Washington, Pa. / MItchell 6-8100 / *C 62
Digital data recording systems, scanning systems, automatic checkout and monitoring systems, special purpose computers, etc. / RMSCa Ss(33) Se(1958) DICc

Monroe Calculating Machine Co., Inc., 555 Mitchell St., Orange, N. J. / ORange 3-6600 / *C 61
Digital computers, punch tape, punch card data processing machines (adding and accounting) / MSa Ls(5000) Le(1912) DIc

Monroe Industries, Inc., 934 36th St., S. E., Grand Rapids 8, Mich. / CH 1-3648 / *C 62
Instrument lighting components and visual displays / RMa Ms(75) Se(1953) Ic

Moog Servocontrols, Inc., Industrial Div., East Aurora, N. Y. / NL 2-2000 / *C 62
Servovalves and electrohydraulic servo systems for missile, aircraft, and industry applications. Hydra-Point numerical control system for drilling and milling machines / RMSa Ls(1000) Me(1951) Sc

Moran Instrument Corp., 170 E. Orange Grove Blvd., Pasadena, Calif. / SYcamore 6-7158 / *C 62
Special servo systems; resolution multipliers, calibrators, regulated high voltage power supply, radiation measurement equipment, radar survey equipment, radar navigation equipment, servo data printer / RMa Ss(15) Me(1950) Ic

F. L. Moseley Co., 409 No. Fair Oaks, Pasadena, Calif. / RYan 1-0208 / *C 62
X-Y recorders (with time base); strip chart recorders, logarithmic amplifiers, curve followers, computer accessories / Ma Ms(225) Me(1951) Ic

Motorola, 4501 W. Augusta Blvd., Chicago 51, Ill. / SP 2-6500 / *C 61
Data transmission in microwave radio relay systems / MSa ?s ?e Ic

Motorola Semiconductor Products Inc., 5005 E. McDowell Rd., Phoenix 8, Ariz. / 273-6900 / *C 62
Silicon and germanium transistors, silicon rectifiers, silicon zener diodes and integrated circuits / RMSa Ls(3000) Se(1954) Ic

Mountain Associates, Charles Rd., Mt. Kisco, N. Y. / MO 6-3939 / *C 62
Programming for various computers such as IBM 7090, 704, 1620, Bendix G-15D, G-20, and others. Our facility cleared for SECRET / C(programming & systems analysis)a Ss(4) Se(1958) DAIc

Mountain Data Systems, Inc., 4 Depot Plaza, Bedford Hills, N. Y. / - / *C 62
Data processing, problem solution, programming, systems analysis and IBM 1620 time rental. Educational applications including scheduling. Business applications from any punched paper tape code / CPa Ss(6) Se(1959) Ic

Multnomah Data Processing Center, 430 N. W. 10th Ave., Portland 9, Ore. / - / *C 62
Computer applications of engineering, statistical and management science problems / (computer service)a Ss(40) Se(1958) Ic

N

National Bureau of Standards, Applied Mathematics Div., Conn. Ave. and Van Ness St., Washington 25, D. C. / EMerson 2-4040 / *C 62
Computing service for government and government contractors only; IBM 7090 - 1401 system / RCGPa Ms(100) Me(1947) Dc

National Bureau of Standards, Data Processing Systems Div., Washington 25, D. C. / EMerson 2-4040 / *C 60
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 62
NCR 304, 315, 310, 390 data processing systems; electronic bank posting machines; punched paper tape recorders; card punch couplers; input-output devices; digital computers / RMSa Ls(40,000 plus) Le(1884) DIc

NATIONAL COMPUTER ANALYSTS, INC., Rte. 206 Ctr., Princeton, N. J. / - / *C 62
EDP and information handling systems analysis; design and implementations; programming; consulting; software development / RCa Ss(20) Se(1961) Ic

National Computer Analysts of New York, Inc., 107 Mamaroneck Ave., White Plains, N. Y. / - / *C 62
Specialists in real-time data processing, communications, information systems and simulation techniques / Ca Ss(14) Se(1961) Ic

National Cybernetic Corp., 111 Broadway, Room 114, New York, N. Y. / - / *C 62
Computer feasibility survey, system evaluation, computer processing, data transmission, application research systems / RCa Ss(6) Se(1962) DIc

National Data Processing Co., dept. of UNIVAC Div. of Sperry Rand Corp., 4703 Ross Ave., Dallas 21, Tex. / TA 7-5021 / *C 62
Complete MICR bank document processing systems including high-speed document processors, audit listers, and Central Processor with accumulating and dictionary look-up capabilities. MICR document encoding devices to print the amount, account number, and transit number fields. Optical Character Recognition systems for automation of accounts receivable and inventory control, includes Readatron Card Punch and Charge Sale Recorders / RMSa Ms(200) Se(1957) Ic

National Physical Laboratory, Mathematics Div., Teddington, Middlesex, England / TEDdington Lock 3222 / *C 62
Computing service using DEUCE and ACE. Digital and punched card / RGPCa Ms(60) Me(1945) Dc

National Scientific Laboratories, Inc., 2010 Massachusetts Ave., N. W., Washington 6, D. C. / HUdson 3-4030 / *C 62
Research and development only on computer application engineering / R(field engineering)a Ms(300) Me(1948) Ic

National Union Electric Corp., Electronics Div., 1201 E. Bell St., Bloomington, Ill. / 967-6041 / *C 61
Special purpose electron tubes / RMa Ss(35) Le(1930) Ic

Navigation Computer Corp., Valley Forge Industrial Park, Norristown, Pa. / GLendale 2-6531 / *C 62

Transistorized digital modules and special purpose computers / Ma Ms(150) 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

Simon M. Newman, 1411 Hopkins St., N. W., Washington 6, D. C. / DU 7-4672 / *C 62
Consultant in documentation; specializing in information retrieval / Ca Ss(0) Se(1961) Ic

The Newton Co., 55 Elm St., Manchester, Conn. / MItchell 3-1543 / *C 61
Data processing equipment. Analog to digital converters; grey to decimal converters; simulators / RMa Ms(75) Se(1952) DIc

The Nissho Company, Ltd., 30, Imabashi-3, Higashiku, Osaka, Japan / - / *C 61
Sales and service for data processing systems; cooperate with prospects for system survey and data processing planning / SCa ?s ?e DAIc

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 62
Digital voltmeters, ohmmeters, ratiometers; oscillogram trace readers, electronic measurement instruments for missile, nuclear, scientific and manufacturing fields; digital readouts, data processing and recording equipment, scanners, visual output devices, analog to digital converters, digital to analog converters / RMSa Ms(285) Se(1952) DAIc

Norden Div. of United Aircraft Corp., Helen St., Norwalk, Conn. / TEmple 8-4471 / *C 61
Electronic rotating components; encoders, synchros, tachometers, gyros, potentiometers / RMSa Ls(2300) Le(1928) Ic

Norden Div., United Aircraft Corp., Data Systems Dept., 3501 Harbor Blvd., Costa Mesa, Calif. -- moved, address unknown

Northrop Corp., 9744 Wilshire Blvd., Beverly Hills, Calif. / CRestview 4-8061 / *C 61
Digital and analog computers / RMSa Ls(16,000) Me(1939) DAc

Norton Associates, Inc., 240 Old Country Rd., Hicksville, N. Y. / OVerbrook 1-6181 / *C 62
Standard and special magnetic record, playback, and erase heads in single and multi-track arrangements for magnetic tape, film, drum, and magnetic ink character recognition / RMSCa Ss(less than 50) Se(1955) Ic

Nortronics, a div. of Northrop Corp., Electronic Systems & Equipment Dept., Research Park, Palos Verdes Estates, Calif. and 222 North Prairie Ave., Hawthorne, Calif. / - / *C 62
Astronertial navigation systems, inertial navigation systems, computers, control systems, and electromechanical, optomechanical and infrared devices / RMa Ls(7500 in Nortronics Div.) Se (1957 as Nortronics Div.) DICc

Nortronics, a div. of Northrop Corp., Marine Equipment Dept., 77 "A" St., Needham Heights 94, Mass. / HI 9-0400 / *C 62
Radiometric sextants, navigation periscopes, stabilization controls, marine plotting equipment, precision servos / RMa Ls(7500 in Nortronics Div.) Se(1957 as Nortronics Div.) ISCc

Nortronics, a div. of Northrop Corp., Precision Products Dept., 100 Morse St., Norwood, Mass. / - / *C 62
Precision gyroscopes, gyro systems, inertial components, flight control systems, accelerometers / RMa Ls(7500 in Nortronics Div.) Se (1957 as Nortronics Div.) ICc

Nortronics, a div. of Northrop Corp., Systems Support Dept., 500 E. Orangethorpe, Anaheim, Calif. / - / *C 62
Automatic checkout systems, optomechanical systems, countermeasures and explosive ordnance, mechanical support systems / RMa Ls(7500 in Nortronics Div.) Se(1957 as Nortronics Div.) ICc

Nuclear Development Corp. 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

Nucleonic Products Co., Inc., 3133 East 12th St., Los Angeles 23, Calif. / AN 2-3503 / *C 62
Diodes, thermisters, tubes, varistors, resistors / MSa Ms(under 500) Se(1952) Ic

O

Olivetti Corp. of America, 375 Park Ave., New York 22, N. Y. -- assets acquired by Underwood Corp.

Omnitronics, Inc., Subsidiary of Borg-Warner Corp., 511 N. Broad St., Philadelphia 23, Pa. / WAlnut 5-4343 / *C 62
Digital communication systems; space electronic devices and systems; digital data handling equipment such as checkout equipment, small special purpose computers, tape-to-tape converters, editors, and buffering equipment. Communications terminal equipment such as high-speed photoelectric tape readers, recorders, and displays / MSa Ls Se(1960) DAISCc

John Oster Mfg. Co., Avionic Div., One Main St., Racine, Wisc. / MElrose 7-4445 / *C 61
Servos, synchros, resolvers, dc motors, servo torque units, motor-tachometers, computers, indicators / RMa Ls(1200) Le(1924, company; 1951, Avionic Div.) Ic

Otis Elevator Co., 35 Ryerson St., Brooklyn 5, N. Y. / ULster 5-6800 / *C 61
Analog computers, peripheral equipment / RMSa Ms (750) Le(1853, Corp.; 1954, Div.) AIc

Owen Laboratories, Inc., 55 Beacon Place, Pasadena, Calif. / MUrray 1-6901 / *C 61
Semiconductor test equipment / Ma Ss(10) Me (1947) Ic

P

Pacific Magnetic Corp., Electronic Center, Romoland, Calif. / OLympia 7-2637 / *C 62
Transformers, magnetic amplifiers, magnetic speed pickups, power supplies, coils, electronic assemblies, etc. / Ma Ss(30) Me(1947) Ic

Pacific Semiconductors, Inc., 12955 Chadron Ave., Hawthorne, Calif. / OSborn 9-2201 / *C 61
Silicon diodes and silicon transistors / RMa Ls (3000) Se(1955) Ic

Pacific Tabulating & Statistical Ltd., B202, 355 Burrard St., Marine Bldg., Vancouver 1, B. C., Canada / - / *C 62
Univac Solid State 80, IBM 1401, IBM unit record equipment available on an hourly use basis / C (data processing services)a Ss(15) Me(1952) Ic

Packard Bell Computer Corp., 1905 Armacost Ave., Los Angeles 25, Calif. / BR 2-9161 / *C 62

General purpose digital computer and digital system components / Ma Ls(700) Se(1957) DIc

John K. Paden Co., 2624 Shelby St., Dallas 19, Tex. / - / *C 62
Electronic data processing management consulting / Ca Ss(1) Se(1960) Ic

Panellit -- a Div. of Information Systems, Inc., 7401 No. Hamlin Ave., Skokie, Ill. / ORchard 5-2500 / *C 61
Coordinated controls centers; annunciators and alarm systems, electrical control panels, benchboards and switchboards / Ma Ms(330) Me(1944) Ic

Paradynamics Inc., Control Electronics Div., 10 Stepar Place, Huntington Station, L. I., N. Y. / HA 7-7961 / *C 62
Computer components; electromagnetic delay lines, lumped constant and distributed constant, fixed and variable, sonic delay lines. VHF-UHF frequency calibrator, direct reading phase angle meter. Electronic instruments, special power supplies / Ma Ms(76) Me(1951) Ic

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

P C A Electronics Inc., 16799 Schoenborn St., Sepulveda, Calif. / EMpire 2-0761 / *C 61
Miniature pulse transformers, delay lines, toroids, telemetering filters / RMSa Ms(120) Me (1948) Ic

Pendar, Inc., 14744 Arminto St., Van Nuys, Calif. / TRiangle 3-3136 / *C 62
Illuminated pushbutton switches, gang switch assemblies, indicators, key-operated switches / Ma Ms(75-100) Se(1952) Ic

The Perkin-Elmer Corp., Main Ave., Norwalk, Conn. / VIctor 7-0414 / *C 62
Electronic-optical systems, chemical analytical instruments, electronic components. Recording missile track systems, infrared systems, analog computers, potentiometers / RMSa Ls(1600) 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., 127 Clarendon St., Boston 16, Mass. / CO 6-5375 / *C 62
Electronic analog computers, operational amplifiers, regulated power supplies / RMSa Ms (200) Me(1946) AIc

Philco Corp., Computer Div. (a Subsidiary of Ford Motor Co.), 3900 Welsh Rd., Willow Grove, Pa. / OLdfield 9-7700, Ext. 230 / *C 62
Philco 2000 all transistorized large scale data processing systems, BasicPac computers for field data; digital computers; engineering and development digital computers; research in computers / RMSCGPa Ls(1500, Computer Div.) Le(1892, Philco) DICc

Philco Corp., Government and Industrial Group, Computer Div. -- name changed to Philco Corp., Computer Div. (a Subsidiary of Ford Motor Co.), which see

Philco Corp., Lansdale Div., a subsidiary of Ford Motor Co., Church Rd., Lansdale, Pa. / ULysses 5-4681 / *C 62
Germanium and silicon transistors and photosensors / RMSa Ls(4000) Le(1898) Ic

Philco Technological Center, P. O. Box 4730, Philadelphia 34, Pa. / NE 4-5100 / *C 61
Computer and transistor correspondence study courses / S(education)a Ss(25) Se(1957) Ic

Philips Electronic Instruments, 750 So. Fulton Ave., Mt. Vernon, N. Y. / MOunt Vernon 4-4500 / *C 62
X-ray diffractometers, spectrographs, cameras and detectors, industrial radiographic equipment -- x-ray and isotopes, electron microscopes, plating thickness gauges, process control instrumentation, electronic and nuclear measuring equipment / RMSCa Ms(350) Me(1942) Ic

Phillips Control Co., 59 W. Washington St., Joliet 1, Ill. / SAgamore 3-3431 / *C 62
Research, development and manufacture of miniature hermetically sealed relays, power relays, and telephone relays for all types of commercial, industrial, and military applications requiring the most demanding specifications and reliability / RMSa Ms(300) Me(1945) Ic

Photomechanisms, Inc., 15 Stepar Place, Huntington Station, L. I., N. Y. / HA 3-4411 / *C 61
Photo-mechanical and electro-optical instrumentation. Rapid access photographic processing equipment. Ground and airborne instrumentation systems / RMSa Ms(70) Se(1952) Ic

Photon, Inc., 355 Middlesex Ave., Wilmington, Mass. / - / *C 62
Photographic composing machines operated by keyboard, by punched tape, and by magnetic tape / RMa Ms(115) Me(1950) DIc

Plastic Capacitors Inc., 2620 No. Clybourn Ave., Chicago 14, Ill. / DIversey 8-3735 / *C 62
Manufacture capacitors, power supplies, and pulse forming networks / Ma Ms(100) Se(1952) Ic

PM Electronics, Inc., 5221 University Ave., San Diego 5, Calif. / JUniper 3-3166 / *C 61
AC and DC airborne telemetry amplifiers. Wideband, differential airborne amplifiers. AC, DC, wideband DC, differential, and single ended data system and instrumentation amplifiers. Operational (integrating, summing, etc.) amplifiers / Ma Ss (35) Se(1958) Ic

Polyphase Instrument Co., East 4th St., Bridgeport, Pa. / BRoadway 9-4660 / *C 62
Pulse and specialty transformers; magnetic components; delay lines; magnetic amplifiers; filters; potted circuits; computer type coils / RMSa Ms(150) Se(1948) Ic

Potter & Brumfield, Princeton, Ind. / FUlton 5-5251 / *C 62
Electro-magnetic relays / Ma Ls(1500) Me(1932) Ic

Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, L. I., N. Y. / OVerbrook 1-3200 / *C 62
Magnetic tape units, high speed printers, perforated tape readers, magnetic record/playback heads / RMa Ms(425) Me(1942) DIc

James Addison Potter, Consulting Engineer, 81 Rumford St., West Hartford 7, Conn. / ADams 2-5935 / *C 62
Plan, staff, and execute projects in research, development and design, sales engineering, management consulting, and automation systems consulting / RCPa Ss Se(1960) DAICc

Princeton Electronics Corp., 178 Alexander St., Princeton, N. J. / WAlnut 1-2020 / *C 61
Semiconductor diodes / RMa Ss(20) Se(1960) Ic

Q

Quantum, Inc., Computer Center, Lufbery Ave., Wallingford, Conn. / CO 9-7765 / *C 61
IBM 1620 computer: tape card input-output, tape to card, card to tape, keypunch, sorter, printer.

Computer service in engineering, science, management reporting, etc. / RCa Ss(5, Computing Center; 30, Quantum, Inc.) Me(1960, Center; 1948, Quantum) Ic

R

Radiation Incorporated, P. O. Box 37, Melbourne, Fla. / PArkway 3-1511 / *C 62
Research; ground-air telemetry and data link systems; computer input systems and equipment (data processing, programming, communication translating, converting); computer output systems and equipment (recorders and printers) / RMS(service company)a Ls(1600) Me(1950) Ic

Radio Corp. of America, Electron Tube Div., 415 So. Fifth St., Harrison, N. J. / HU 5-3900 / *C 61
Manufacture comprehensive line of electron tubes for entertainment, communications, industry, and military applications. Sell test equipment, batteries, sound tape / MSa ?s ?e Ic

Radio Corp. of America, Electronic Data Processing, RCA- Cherry Hill, Camden 8, N. J. / WOodlawn 3-8000 / *C 62
Commercial systems: RCA 301, 501, and 601 electronic data processing systems; computers, magnetic tape stations, data record files, data disc files, card readers, card punches, paper tape readers, paper tape punches, high-speed on-line printers, MICR equipment, remote inquiry units, command translator units. Industrial systems and data communications and custom projects / RMSa Ls (2500, EDP) Le(1919, RCA) DICc

Radio Corp. of America, Precision Electronic Instruments Div., Bldg. 15-1, Camden, N. J.
Magnetic tape recorders / RMSa Ic

Radio Corp. of America, Semiconductor and Materials Div., Rte. 202, Somerville, N. J. / RAndolph 2-3200 / *C 62
Computer and power transistors, switching and tunnel diodes, microcircuits and multiple devices, ferrite cores, planes and stacks / RMSa Ls(3500) Se (1954) Ic

Ramo-Wooldridge, a Div. of Thompson Ramo Wooldridge Inc., 8433 Fallbrook Ave., Canoga Park, Calif. / DI 6-6000 / *C 61
Digital computers for industrial process control, scientific and data processing; electronic and photographic display devices / RMSa Ls(1200) Se (1953) DICc

Rank Precision Industries Ltd., Electronics Dept., Sulgrave Rd., Hammersmith, London W.6, England / Shepherds Bush 2050 / *C 62
Xeronic high-speed computer printer / RMSCa Ls (3500) Me(1948) 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 Co., Communications and Data Processing Operation, 1415 Boston-Providence Turnpike, Norwood, Mass. / - / *C 62
Special A/D converters, multiplexers, commutators, digital modules and accessories for ultra-high speed applications / RMSa Ls(650) Se(1959) DAIc

Raytheon Co., Industrial Components Div., 55 Chapel St., Newton 58, Mass. / BIgelow 4-7500 / *C 62
Reliable miniature and subminiature electron tubes, high density modules, miniaturized light indicators, decade counters, magnetostriction filters, recording storage tubes and special cathode ray tubes, electrostatic printer tubes for computer output data, piezoelectric accelerometers, memory cores, LC filters and delay lines, knobs and mechanical components, and Raytheon Raysistor ® relays / RMSCa Ls(43,000) Le(1923) Ic

Raytheon Co., Semiconductor Div., 900 Chelmsford St., Lowell, Mass. / 452-8962 / *C 62
Avalanche mode switching transistors, all varieties of germanium and silicon transistors, all varieties of germanium and silicon diodes, silicon rectifiers, circuit-paks (encapsulated circuits using semiconductor devices) RMSa Ls(43,000) Le(1923) Ic

Recordak Corp. (a subsidiary of Eastman Kodak Corp.), 415 Madison Ave., New York 17, N. Y. / MU 8-1212 / *C 61
Recordak DACOM System, computer output system on 16mm microfilm / Sa ?s Le(1928) Ic

RECORDING & STATISTICAL CORP. (Nationwide and Canada), Pacific Coast Offices: 417 Market St., San Francisco, Calif. / YU 1-7011 / *C 62
Data processing and computing servicenters. R & S Corp., the first and oldest data processing service organization in the U. S., installed the first commercial computer used by a service center. The company has made a place for itself in the space age with highly technical assistance to CPFF contractors in cost detail reporting, spares provisioning, wiring specifications, listings, etc. / (service bureau)a Ms(500) Le(1911) Ic

Redmond-Fairchild Inc., 610 So. Arroyo Pkwy., Pasadena, Calif. / MU 1-6721 / *C 62
Magnetic data storage drums / RMa Ss(45) Me(1951) Ic

Reeves Instrument Corp., Roosevelt Field, Garden City, N. Y. / PIoneer 6-8100 / *C 62
Analog computers and systems, analog-to-digital and digital-to-analog converters, gyros, resolvers, servo mechanism system, radar and guidance systems, computing services, data recording equipment, computers for simulation, automation and control, differential analyzers, electronic integrators / RMSa Ls(1600) Me(1942) Ac

Reeves Soundcraft Corp., 15 Great Pasture Rd., Danbury, Conn. / PI 3-7601 / *C 62
Soundcraft LWD heavy duty computer tape / RMSCa Ms(300) Me(1946) Ic

Reflectone Electronics, Inc., a subsidiary of Universal Match Corp., W. Main St., Stamford, Conn. / - / *C 62
Special purpose digital and analog simulator computers / RM(design and development of military and industrial simulators)a Ms(400) Me(1940) DAICc

Regency Electronics, Inc., 7900 Pendleton Pike, Indianapolis 26, Ind. / LIberty 7-3581 / *C 62
Components, readouts, digital and alpha-numeric / RMSa Ms(200) Me(1945) DIc

Reinhold Book Div., Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y. / MU 8-8600 / *C 62
Technical books on the subjects of computers, automation, automatic control and electronics / Se(40) Le(1926) Ic

Remington Rand Div. of Sperry Rand Corp., 315 Park Ave. So., New York 10, N. Y. / SPring 7-8000 / *C 62
Digital electronic computing systems (Univac), computing services, office machines, and systems / RMSa Ls(8000) Le(1876) DIc

Reon Resistor Corp., 155 Saw Mill River Rd., Yonkers, N. Y. / YOnkers 5-9850 / *C 61
Precision wirewound resistors, composition variable resistors / Ma Ms(50) Se(1952) DAIc

Republic Aviation Corp., Missile Systems Div., Conklin St., Farmingdale, N. Y. / - / *C 62
The design, development and manufacture of special purpose and general purpose digital computers, data processing systems, digital control systems, and digital communications equipment for military applications / RMa Ls(15,000) Le(1930) DICc

Rese Engineering, Inc., A & Courtland Sts., Philadelphia 20, Pa. / GL 5-9000 / *C 62
Special purpose computers, digital computer test equipment / Ma Ms(90) Se(1953) DIc

Resistance Products Co., 914 S. 13th St., Harrisburg, Pa. / CEdar 6-5081 / *C 62
Resistors: wire wound, high voltage, high frequency, high megohm, metal film and resistance networks / Ma Ms(337) Me(1947) Ic

RF Products, a Div. of Amphenol-Borg Electronics Corp., 33 E. Franklin St., Danbury, Conn. / PIoneer 3-9272 / *C 61
Coaxial cable and wire, coaxial connectors, coaxial switches (relays) / RMSa Ls(750) Se(1960) Ic

Richardson Camera Co., Inc., 2526 North Ontario St., P. O. Box 3066, Burbank, Calif. / VIctoria 9-4636 / *C 61
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(1953) Ic

Rockford Research Institute Inc., 140½ Mt. Auburn St., Cambridge 38, Mass. / TRowbridge 6-6776 / *C 62
Information retrieval research and artificial intelligence research / RCa Ss(5) Se(1961) Ic

ROTRON MANUFACTURING CO., INC., Hasbrouck Lane, Woodstock, N. Y. / ORiole 9-2401 / *C 62
Cooling equipment, fans, and blowers for flushing computer consoles, cabinets and boxes / Ma Ms (485) Me(1949) Ic

Royal Electric Corp., 95 Grand Ave., Pawtucket, R. I. / PAwtucket 2-8600 / *C 61
Wire, cable, line cords, wiring devices / Ma Ls (950) Le(1923) 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) Me(1950) Ic

Ryan Transdata Inc., Harbor Dr., San Diego, Calif. / CY 6-6681 / *C 60
Automated office retrieval systems (nothing ready for marketing yet) / RMSa Ss(21) Se(1960) Ic

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Saab Aircraft Co., Electronics Div.; Bureau for Engineering Data Processing; Saab Electronic Sales Div.; Linköping, Sweden / 013/30020 / *C 61
Digital computers; commercial and technical data processing, process control, special purpose, airborne, ground. Converters. Magnetic tape systems. Numerical control systems. Computing service / RMSCa Ls(550) Me(1949) DIc

Sage Electronics Corp., Box 3926, Rochester 10, N. Y. / LUdlow 6-8010 / *C 62
Miniature wirewound precision power resistors / MSa Ms(95) Me(1948) Ic

Sanborn Company, 175 Wyman St., Waltham 54, Mass. / TWinbrook 4-6300 / *C 62
Oscillographic recording instruments and systems, X-Y recorders and transducers, data amplifiers, multi-trace oscilloscopes, tape recorder (7-channel), transducer amplifier/indicators / Ma Ls (1000) Le(1917) Ic

Sanders Associates, Inc., 95 Canal St , Nashua, N. H. / TUxedo 3-3321 / *C 62
TRI-PLATE module mounts for semiconductors including series double-ended cartridges, pigtail diodes, TO-18 and TO-5 transistors / RMSa Ls (2000) Me(1951) Ic

Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / KIngswood 4-6411 / *C 62
Capacitors, inductive components, magnetic tape recorder/reproducers and delay lines / RMSa Ls(4000) Le(1899) Ic

Santa Anita Engineering Co., 3270 E. Foothill Blvd., Pasadena, Calif. / MU 1-7441 / *C 61
Electronic enclosures, cabinets and consoles / Ma Ms(50) Me(1945) Ic

Saunders & Co., 8 Prospect St., Waltham 54, Mass. / TW 4-6071 / *C 60
Manufacturers representatives (instructions, components, mechanisms) / Sa Ss(3) Se(1954) Ic

Science Research Associates, Inc., Data Services Div., 259 E. Erie St., Chicago 11, Ill. / WHitehall 4-7552 / *C 62
Document transcription services using high-speed photo-electric scanners as input to magnetic tape computer or punched card systems. DocuTran (TM) service capability for reading up to 5320 pencil responses on both sides of 8½ x 11 sheet at over 5000 sheets per hour. Related EDP services, applications and systems consulting, statistical research / RC(computer & statistical services)a Ms(180) Se(1956) Ic

Scientific Computing Service, 23 Bedford Square, London W.C.1, England / MUSeum 0808 / *C 62
Problem solving, mathematical and statistical consulting. Digital computing service / RCPa Ss (15) Me(1937) DIc

SCIENTIFIC DATA SYSTEMS, INC., 1542 Fifteenth St., Santa Monica, Calif. / - / *C 62
Two low-cost, high-performance, general-purpose digital computers, the SDS 910 and the SDS 920, for scientific and engineering computation and integration into on-line digital systems. Complete line of digital modules and systems components such as analog-to-digital converters, amplifiers, etc. Design and manufacture of digital systems for industry and government use / Ma Ms(60) Se (1961) DIc

Scientific Development Corp., 372 Main St., Watertown, Mass. / WA 4-5431 / *C 61
Digital computer training devices. MINIVAC 601 digital computer simulator / RMSa Ss(30) Se (1959) Dc

H. M. Semarne, 5834 Oso Ave., Woodland Hills, Calif. / TR 8-0444, DI 0-3803 / *C 62

Development of computer systems and of application techniques. Planning of information systems and documentation aids. Design of computer user training programs and manuals. Assistance in computer equipment selection. Computer market studies. Educational systems and decision-process automation for management / RCPa Ss Se (1962) DAICc

THE SERVICE BUREAU CORP., A SUBSIDIARY OF IBM, 425 Park Ave., New York 22, N. Y. / PLaza 1-5600 / *C 62
Data processing, programming, systems analysis, and machine services on a contractual basis for business and scientific problems using IBM 650, 1401, 7070, 704, 709, 7090, 1620, dataplotting, MICR reader-sorter, and unit record equipment. Offices in 70 cities. Extensive computer application experience in fields too numerous to list. The following data processing systems are available on an hourly basis: IBM 650, 1401, 7070, 704, 7090. (IBM 1620 in second half of '62) RCPa Ls(1600) Le(1932) DAIc

Servomechanisms/Inc., 200 No. Aviation Blvd., El Segundo, Calif. / OSborne 5-7111 / *C 62
Air data computers, transducers, motors, transformers, ground support equipment, microminiaturized thin film computer elements, welded module assemblies, resistors / RMa Ls(722) Me(1946) DAISCc

Shand and Jurs Co., a subsidiary of General Precision Equipment Cor., 2600 Eighth St., Berkeley 10, Calif. / THornwall 8-2345 / *C 62
Dataloggers, telemetering systems, data-handling equipment / RMSa Ms(175) Le(1920) Ic

Shepard Laboratories, Inc., 480 Morris Ave., Summit, N. J. / CRestview 3-5255 / *C 61
High-speed input-output accessories for computers and EDPS (typers, decoders, tape transports, etc.) / RMCa Ss(40) Me(1944) Ic

Marc Shiowitz & Associates, Inc. -- name changed to Mesa Scientific Corp., which see

F. W. Sickles Div., General Instrument Corp., 165 Front St., Chicopee, Mass. / LYceum 4-4781 / *C 62
Computer components; electromagnetic delay lines, lumped constant and distributed constant, fixed and variable step; audio and ultrasonic filters; toroidal inductors; embedded assemblies; L-C tuned circuits; etc. / Ma Ls(1900) Le(1921) Ic

The Simulmatics Corp., 501 Madison Ave., New York 22, N. Y. / - / *C 62
Applications of computer simulation to marketing, advertising, economic and behavioral problems / RCa Ss(20) Se(1959) 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., 410 Park Ave., New York 22, N. Y. / PLaza 2-2700 / *C 61
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 62
Analog computers Type NADSC 20 and NADAC 100 with non linear components and recorders; flight simulators; digital computers Type CAB 500 and 3900 for scientific applications and data processing, using punched tape and magnetic tape; input and output equipment, tape reader, paper tape punches. Electronic high speed printers, digital to analog converter "ENAC"; automation devices, coders, storage, etc.; numerical control / RMSa Ls(500) Me(1948) DASCIc

The Society for Automation in Business Education, 1108 Johnson Ave., San Jose 29, Calif. / - / *C 62
An educational organization for businessmen and business educators / Publishing Ss(4) Se(1960) Ic

Sola Electric Co., 1717 Busse Rd., Elk Grove Village, Ill. / HEmpstead 9-2800 / *C 62
Constant voltage regulators / RMSa Ls(900) Le (1921) Ic

Sorensen & Co., Inc., a subsidiary of Raytheon Co., Richards Ave., So. Norwalk, Conn. / TEmple 8-6571 / *C 61
Regulated power supplies — voltage regulators / RMSa Ms(400) Me(1934) Ic

Soroban Engineering, Inc., Box 1717, Melbourne, Fla. / PArkway 3-7221 / *C 62
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(190) Se(1954) Ic

Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif. VIctoria 9-3193 / *C 62
Precision capacitors / RMa Ms(64) Me(1951) Ic

Southwestern Computing Service, Inc., 1631 So. Boston, Tulsa 19, Okla. / GI 7-8146 / *C 62
Computing service, solving data reduction, engineering and business problems; IBM 604, Alwac III, and associated equipment. Burroughs B260 for delivery in fall '62 / RCPa Ss(10) Se(1953) DAc

Space Technology Laboratories, Inc., One Space Park, Redondo Beach, Calif. / - / *C 62
Research and development of missiles and space vehicles. Management information processing systems. 2 IBM 7090's, 6 IBM 1401's, RCA 501, RCA 301, plus a special purpose data reduction and analogue computation center / Ra Ls(4400) Se (1954) DAICc

Specialties, Inc., Skunks Misery Rd., Syosset, N. Y. / WAlnut 1-2345 / *C 60
Flight computers; mach. computers; altitude, airspeed, 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 Farragut Co., Div. of Sperry Rand Corp., Bristol, Tenn. / WO 8-1151 / *C 62
Amplifiers; packaged computer circuits, plug-in circuits, printed circuits; computer type coils; analog computers; computer components; fire control equipment; and systems engineering / RMa Ls(850) Me(1951) AICc

Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N. Y. / LR 4-0111 / *C 62
Research, design development and manufacture of digital and analog computers for underwater, surface and airborne applications, including general purpose and special miniature computers for airborne and space applications; data processing equipment; electronic digital to analog and analog to digital conversion equipment; counter-measures systems; check-out equipment; magnetic drums and memory systems; stable platforms, gyroscopes and accelerometers for inertial guidance systems for ships, aircraft and missiles, specializing in automatic transistorized, miniaturized devices / RMSCa Ls(17,500) Le(1910) DAIc

Sperry Semiconductor Div. of Sperry Rand Corp., Norwalk, Conn. / VIctor 7-3851 / *C 62
Silicon diodes, transistors, semiconductor products and semiconductor integrated networks / RMSa Ms (300) Se(1956) Ic

Sprague Electric Co., 377 Marshall St., North Adams, Mass. / Area Code 413, Tel. 664-4411 / *C 62
Transistors: switching, ECDC, MADT, MAT, SPAT; core and film driving, ECDC. 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(8000) Le(1926) Ic

Stackpole Carbon Co., Stackpole St., St. Mary's, Pa. / TErminal 4-1521 / *C 61
Anti-corrosion and chemical anodes; electric motor and generator brushes; precious metal contacts; carbon and graphite seals; mechanical carbon and graphite; carbon and graphite bearings; resistors; switches; soft ferrites; permanent ceramic magnets; and magnetic powder / Ma Ls(2500) Le(1906) Ic

The Standard Register Company, 626 Albany St., Dayton 1, Ohio / BAldwin 3-6181 / *C 62
Business forms for source data collection (input) and (output) EDP equipment plus data collection and transmission equipment (Dataray 401) / MSa Ls (3600) Le(1912) Ic

Stanford Research Institute, 333 Ravenswood, Menlo Park, Calif. / DAvenport 6-6200 / *C 61
Ra Ls(1825) Me(1946) DAc

Statistical Instrument Company, 25 Sutton Place South, New York 22, N. Y. / PL 2-1089 / *C 61
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

Statistical Tabulating Corp., 104 S. Michigan Ave., Chicago 3, Ill. / Area Code 312, DEarborn 2-2484 / *C 62
Fourteen Data Processing and Computer Centers containing IBM 1400-Series card and tape systems plus peripheral equipment and conventional punch card tabulating and data processing machines. Administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation. Divisions: Data Processing; TASK FORCE; Computer Advisors to Management; Space Services / RSCPa Ls(5000) Me (1933) DIc

Stereatronics, 300 Ellis Rd., Weston 93, Mass. / TWinbrook 4-6071 / *C 60
Solid-state information-handling devices: transistor, magnetic, ferroelectric applications / RMSa Ss(2) Se(1954) Ic

Stellarmetrics, 210 E. Ortega St., Santa Barbara, Calif. / - / *C 62
Development and production of standard and special electronic commutators/multiplexers for telemetry and data reduction applications. Also manufacture state-of-the-art low/high level "Microplexer" all-purpose 100 channel sampling switch and the low-level "Magristor" switching device used in Microplexer. Decommutation system development and pilot production for general and specialized applications including, but not limited to, computer data reduction facilities / RMa Se(14) Se(1961) Ic

Sterling Instrument div. of Designatronics, 17 Matinecock Ave., Port Washington, N. Y. / PO 7-8200 / *C 61
Field engineers available on a national basis for component consultation; 20,000 stock electro-mechanical components (servo) / RMSCa Ms(150) Se (1958) Ic

D. M. Steward Manufacturing Co., P. O. Box 510, Chattanooga, Tenn. / TAylor 1-1561 / *C 61
Ferrites and other technical ceramics, ferrite magnetic cores, recording heads, pulse transformer cores / RMSa Ms(150) Le(1876) Ic

Strand Engineering Co., 7300 Huron River Dr., Dexter, Mich. / HA 6-5111 / *C 62
Digital display systems and modules, special purpose computing systems, automatic control and automation systems / RMCa Ms(67) Se(1955) DAISCMc

Stromberg-Carlson Div. of General Dynamics Corp., 100 Carlson Rd., Rochester 3, N. Y. / HUbbard 2-2200 / *C 60
Special purpose data processing, high speed data communication, data acquisition and logging, high speed readout and display / RMSa Ls(9000) Le (1894) Ic

Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia 15, Pa. / ORchard 3-5600 / *C 62
Testing and measuring equipment, calibration, certification. Analog field plotter, prototypes, precision electromechanical assemblies, mechanical components / RMSCa Ss(35) Me(1947) AIc

Superex Electronics Corp., 4-6 Radford Pl., Yonkers, N. Y. / YOnkers 5-6906 / *C 62
Cable assemblies, plug in and printed circuits, coils, ferrite cores, jacks, transformers, headphones, headsets, and other components / RMSa Ms (60) Se(1950) Ic

Sutherland Co., 1112 First National Bank Bldg., Peoria, Ill. / 673-5431 / *C 62
Integrated management information systems utilizing electronic data processing equipment. Developed DATIS -- Development and Analysis Techniques for Information Systems / Ca Ss(35) Me(1950) Dc

Sylvania Electric Products Inc., 1740 Broadway, New York, N. Y. / JUdson 6-2424 / *C 61
Electronic tubes, semi-conductors, diodes, lighting devices / RMa Ls(29,000) Le(1901) Ic

Sylvania Electric Products Inc., Semiconductor Div., 100 Sylvan Rd., Woburn, Mass. / WElls 3-3500 / *C 62
Transistors, diodes, microwave diodes, bullet rectifiers / RMSa Ls(3000) Le(1901) Ic

Sylvania Electronic Systems, 40 Sylvan Rd., Waltham 54, Mass. / TWinbrook 4-8444 / *C 62
Small, medium, and large-scale computers; special and general-purpose; terminal and switching equipment; programming services / RMSCa Ls(6100) Se (1955) DAICc

Systematics, a Div. of General Instrument Corp., 3216 W. El Segundo Blvd., Hawthorne, Calif. / - / *C 62
Tape to card converters, card to tape converters, tape to tape converters, tape and card communication systems, data system input/output devices / RSa Ms(175) Se(1955) Ic

System Development Corp., 2500 Colorado Ave., Santa

Monica, Calif. / EXbrook 3-9411 / *C 62
Perform design, analysis, implementation and training of large data processing systems / Ra Ls(4000) Se(1956) Ic

Systems Data Processing Co., 908 - 15th St., Sacramento 14, Calif. / - / *C 62
Punched card, punched tape, and punched ticket data processing services / (data processing services)a Se(9) Se(1959) Ic

Systems Div. of Beckman Instruments, Inc. — see Beckman Instruments, Inc.

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

Systems Research Group, Inc., 1501 Franklin Ave., Mineola, L. I., N. Y. / - / *C 62
Mathematical analysis, operations research, computer programming (IBM 7090, IBM 704, IBM 709, IBM 1401, CDC 160, CDC 160A, CDC 1604, UNIVAC, TRANSAC / RCa Se(40) Se(1959) Ic

Systron-Donner Corp., 888 Galindo St., Concord, Calif. / - / *C 62
Analog computers, data acquisition and logging systems / RMSa Ms(400) Se(1960) Ac

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Tabulating Service of Dallas, 1222 Ft. Worth Ave., Dallas 8, Tex. / - / *C 62
IBM 407, 402, etc. Sales analyses, payrolls, inventories, statistical, etc. / RSC(IBM training)a Ss(25) Me(1946) Ic

Taller Cooper Div., American Electronics, Inc., 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 62
Paper tape perforators; paper tape readers; paper tape preparation, duplication, and verification equipment; data communication equipment, tape preparation and hard copy print-out systems, paper tape to magnetic tape converters, magnetic tape to paper tape converters, special digital systems / MSa Ms(80) Me(1951) DIc

Taurus Corp., Academy Hill, Lambertville, N. J. / EXport 7-2390 / *C 62
Static punched card readers, teflon insulated terminals / MSa Ss Se(1956) Ic

Technical Advisors, Inc., Municipal Court Bldg., Ann Arbor, Mich.; 3603 Lemmon Ave., Dallas 19, Tex.; 3033 No. Central, Phoenix 12, Ariz. / (Mich.) NOrmandy 2-1159; (Tex.) LAkeside 6-1658; (Ariz.) AMherst 4-1715 / *C 62
Digital computer service bureau using LGP-30 and RPC-4000 / Ca Ss(15) Se(1954) Dc

Technical Information Company, Ltd., Chancery House, Chancery Lane, London, W.C.2, England / - / *C 62
Publishers of "Computer Abstracts" and "Computer News" / Ms(130) Me(1951) Ic

Technical Operations, Inc., South Ave., Burlington, Mass. / BR 2-2000 / *C 61
Industrial, commercial and military operations research; automatic programming systems and digital simulations, data processing systems; transistorized power supplies (manufactured by subsidiary) / RSCa Ms(350) Se(1951) Ic

Technical Operations, Inc., Monterey, Calif. — name changed to Laboratory for Electronics Inc., Monterey Laboratory, which see

Techniques Inc., 40 Jay St., Englewood, N. J. / LOwell 9-5333 / *C 62
Printed circuits; blank modular P. C. boards with circuits for digital operations; photo-etched metal parts / RMSa Ss(under 50) Se(1954) Ic

Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia 34, Pa. / - / *C 62
Peripheral equipment, print station, buffer memories, delay lines (electromagnetic, magnetostrictive), pulse transformers / RMa Ms(256) Me(1947) Ic

Technology Instrument Corp. — name changed to Bowmar Instrument Corp., which see

Tech Serv Inc., 4911 College Ave., College Park, Md. / *C 62
Manufacturers of transistorized digital logic elements and systems / RMa Ss(35) Se(1959) Ic

Telecomputing Corp., 9229 Sunset Blvd., Los Angeles 69, Calif. / CRestview 4-0771 / *C 62
Data analysis and processing equipment, special purpose computers, data reduction analysis and counselling / RMSCa Ls(3000) Se(1942) DAICc

Telecomputing Services, Inc., 8949 Reseda Blvd., Northridge, Calif. / - / *C 62
Services for the study, design, implementation and operation of data reduction and data processing systems. Data measurement, programming, and computer services available on an hourly basis. Extensive data reduction experience at missile test ranges, including the development and operation of automatic telemetry data reduction. Management data; inventory control, PERT, labor distribution, payroll, etc., available on IBM 1401-7070 / Sa Ms(290) Me(1947) Ic

Tele-Dynamics Div. of American Bosch Arma, 5000 Parkside Ave., Philadelphia 31, Pa. / TRinity 8-3000 / *C 61
Printer/reader, multistylis plotter and circuit modules / RMSa Ls(590) Me(1948, division) Ic

The Teleregister Corp., 445 Fairfield Ave., Stamford, Conn. / FI 8-4291 / *C 62
Data processing systems, designed for particular applications, including input/output, integrated communications; data display and storage facilities, and central processors. Over 1,000,000 hours' experience with commercial on-line operation: systems designed, built and maintained / MS(systems engineering)a Ls(1100) Le(1929) Ic

Teletype Corp., 5555 Touhy Ave., Skokie, Ill / COrnelia 7-6700; ORchard 6-1000 / *C 62
Message and data communications equipment. Tape readers and tape punches for computer input/output. Page printers / RMSa Ls(5200) Le(1907) Ic

Telex/Aemco, a Div. of Telex, Inc., 30 State St., Mankato, Minn. / - / *C 62
Manufacturing electro-magnetic relays and industrial timers / Ma Ms(420) Le(1918) Ic

Telex/Ballastran, 1701 N. Calhoun St., Fort Wayne 7, Ind. / - / *C 62
Specialty transformers / RMCa Ms(185) Me(1946) Ic

Telex, Inc., 1633 Eustis St., St. Paul 1, Minn. / MIdway 6-7211 / *C 61
Magnetic disc memories, magnetic amplifiers, transformers, relays, indicator lights / RMSa Ls(2000) Me(1939) Ic

Texas Instruments Inc., 13500 N. Central Expressway, Dallas 22, Texas / ADams 5-3111 / *C 62
Semiconductor products and components, silicon and germanium transistors, silicon diodes and rectifiers, resistors, tantalum capacitors / RMSa Ls(8000) Se(1954) Ic

Texas Instruments Inc., Apparatus Div., P. O. Box 6015, Dallas, Tex. / - / *C 62
Amplifiers, multipliers, power supplies / RMSa ?s ?e Ic

Texas Instruments Incorporated, Semiconductor Components Div., Box 5012, Dallas 22, Tex. / AD 5-3111 / *C 62
Transistors (germanium and silicon); solid circuit semiconductor networks; silicon diodes; silicon rectifiers; capacitors; resistors / RMSa Ls (14,000) Me(1933) Ic

Thermosen, Inc., 375 Fairfield Ave., Stamford, Conn. / DAvis 4-6125 / *C 62
Temperature limited diodes and other special purpose vacuum tubes / RMa Ss(15) Me(1951) Ic

Thompson Ramo Wooldridge Inc., RW Div., 8433 Fallbrook Ave., Canoga Park, Calif. / - / *C 62
Digital computers for on-line real time control; peripheral equipment; display devices; information system design / RMSa Ls(1000) Se(1954) DICc

Traid Corp., 17136 Ventura Blvd., P. O. Box 648, Encino, Calif. / TRiangle 3-3373 / *C 62
Photographic instrumentation equipment, high-speed and data recording motion picture cameras and related accessories, advanced electronic miss-distance systems / MS(research and development in photographic engineering, electronic miss-distance systems)a Ss(30) Me(1946) Ic

Trak Electronics Co., Inc., 59 Danbury Rd., Wilton, Conn. / POrter 2-5521 / *C 62
Morse-to-teleprinter code converters, TWX-to-CCIT translators; teletype multiplexers / RMa Ms(250) Me(1947) Ic

Transitron Electronic Sales Corp., 168 Albion St., Wakefield, Mass. / 245-4500 / *C 62
Silicon transistors, diodes, rectifiers, controlled rectifiers, references and regulators, switches, micro-components, capacitors and encapsulations, multiple assemblies and circuit packages / RMSa Ls(3400) Se(1952) Ic

Trio Laboratories, Inc., DuPont Rd., Plainview, L. I., N. Y. / OVerbrook 1-0400 / *C 62
Analog component for solving three dimensional equations (RODIAC); all transistor voltage comparator; voltage monitor; test instruments / RMa Ms(75) Se(1954) AIc

TRW Computers Co., a div. of Thompson Ramo Wooldridge Inc., 8433 Fallbrook Ave., Canoga Park, Calif. / 346-6000 / *C 62
Magnetic drum and drum-core computer systems for full-time on-line control of industrial processes such as steel mills, power stations, and chemical and refining plants / RMSa Ms(150) Se(1957) Dc

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 Corp., 1 Park Ave., New York 16, N. Y. / OREgon 9-3400 / *C 62
Paper tape producing equipment and paper tape to card, paper tape to magnetic tape converters. Portable, manual, electric, and variable space electric typewriters; manual and electric adding machines; high speed one- and two-register printing calculators; audit accounting machines, with fully automatic programming, with or without electric typewriter keyboards; mercator billing/accounting machines, with fully automatic programming, electric typewriter keyboards, and high-speed solid state electronic multiplying units; Data-Flo accounting machines, with fully automatic programming, with or without electric typewriter keyboards, and integral paper tape punches; Data-Flo Mercator billing/accounting machines, with fully automatic programming, electric typewriter keyboards, high-speed solid-state electronic multiplying units, and integral paper tape punches; Data-Flo Tape to Card Converters, to convert Data-Flo paper tape into punched cards at 6000 cards per hour, with completely flexible plug-board programming, and automatic self-verification / RMSa Ls(8000) Le(1894) DISc

Union Carbide Nuclear Co., Central Data Processing, P. O. Box P, Oak Ridge, Tenn. / Area Code 615, 483-8611, ext. 8671 / *C 62
Numerical analysis and data processing using digital computers / RGP(AEC contractor)a Ms(85) Me(1948) Dc

Union Switch & Signal Div. of Westinghouse Air Brake Co., Braddock Ave., Pittsburgh 18, Pa. / CHurchill 2-5000 / *C 62
"Readall" readout instruments, miniature and subminiature relays, remote control systems for railroads and pipelines / RMSa Ls(1875) Le(1881) IC(control systems engineering)c

U. S. Air Force, Analytical Systems Branch, Data Processing Div. — name changed to U. S. Air Force, Management Computations Branch, Data Processing Div., which see

U. S. Air Force, Management Computations Branch, Data Processing Div., AFASC, Headquarters USAF, Pentagon Bldg., Washington 25, D. C. / OX 7-7275 / *C 62
Government systems consulting and problem solving (management computation problems as opposed to data processing and engineering) / CGPa Ss(25) Me(1948) Ic

U. S. Air Force, Systems Dynamic Analysis Div., Wright-Patterson Air Force Base, Ohio / CL 3-7111, Ext. 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) Me(1950) DAc

U. S. Army, Ballistic Research Laboratories, Aberdeen Proving Ground, Md. / CRestwood 2-4000, Ext. 43271 / *C 62
High-speed digital computers and computing service for government and government contractors / RCGPa Ms(120) Me(1940) Dc

U. S. Naval Weapons Laboratory, Computation and Analysis Lab., Dahlgren, Va. / NOrth 3-2511 / *C 62
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(325) Me(1942) Dc

U. S. Navy, Aviation Supply Office, Data Processing Div., 700 Robbins Ave., Philadelphia 11, Pa. / PI 2-1010, X388 / *C 62
Two IBM 705 III (planning for 1410's), five IBM 1401's. Transceiver and EAM equipment services for Naval Aviation Inventory Control / Ga Ms (250) Se(1952) Dc

U. S. Semiconductor Products, a div. of United Industrial Corp., 3540 West Osborn Rd., Phoenix, Ariz. / BRowning 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

UNIVAC Military Operations of Sperry Rand Corp., UNIVAC Park, St. Paul 16, Minn. / - / *C 62
Digital electronic computing and data processing systems airborne and ground-based, real time computers, peripheral equipment programming services / RMa Ls(6000) Me(1947) DIc

V

Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif. / FAculty 1-2280 / *C 62
Power supplies, delay lines, pulse transformers, chokes, inductors, coils / RMSa Ms(110) Se(1954) Ic

Varityper Corp., 720 Frelinghuysen Ave., Newark 12, N. J. / BIgelow 2-2600 / *C 61
Vari-typer that composes type for reproduction by any duplicating method. Fotolist System, that automatically processes data on file cards into lists for directories, parts and price lists, indexes, etc. / RMSa Ls(900) Me(1933) Ic

Veeder-Root Inc., 70 Sargeant St., Hartford 2, Conn. / JA 7-7201 / *C 62
Analog-to-digital converters; electronic counters and controls; mechanical, electro-mechanical and instrument counting devices for all counting requirements; gasoline pump computers; aviation instruments; photoelectric actuator controls / MSa Ls(3,000) Le(1928) Ic

Vernistat Div. of the Perkin-Elmer Corp., 771 Main Ave., Norwalk, Conn. / VIctor 7-0411 / *C 62
Vernistat a.c. potentiometers, adjustable function generators, digital data recorders, specialized analog computer components / RMSa Ms(75) Se (1954) Ic

Vickers Inc., Electric Products Div. (Div. of Sperry Rand Corp.), 1815 Locust St., St. Louis 3, Mo. / CEntral 1-5830 / *C 61
Magnetic amplifiers — o.2W to 1000KW; synchronizers; servomechanisms; power control systems / RMSa Ls(550) Me(1948) Sc

Victor Business Machines Div., Victor Comptometer Corp., 3900 N. Rockwell St., Chicago 18, Ill. / KE 9-8210 / *C 61
Input devices via punched tape; data punch; output printer and components, Victor Digit-Matic Systems / RMSa Ls(4600) Le(1918) DIc

Vitramon, Inc., P. O. Box 544, Bridgeport 1, Conn. / AMherst 8-6261 / *C 62
Microminiature ceramic and porcelain capacitors. Mil-C-11272 and Mil-C-11015 / Ma Ms(450) Me (1948) Ic

Vought Electronics, P. O. Box 1500, Arlington, Texas / ANdrews 2-3211 / *C 61
Digital, analog, and DDA computers for guidance, fix-taking, real time and automatic control. Digital actuators and converters, problem solving, computer programming, and machine time (IBM 650/704) / RMSCPa Ls(600) Se(1959) DAICc

W

The Walkirt Co., 10321 S. La Cienega Blvd., Los Angeles 45, Calif. / OR 8-4814 / *C 62
Plug-in pulse circuit packages; complete counters, multivibrators, amplifiers, gates, triggers, pulse generators, etc. / Ma Ss(50) Me(1948) Ic

Wang Laboratories Inc., 12 Huron Drive, Natick, Mass. / OL 3-3910 (Boston line, CE 7-9572) / *C 62
Special purpose data reduction systems, block tape readers, encoder systems / RMSa Ss(18) Me (1951) DCc

Ward Leonard Electric Co., Mt. Vernon, N. Y. / *C 62
Electronic and electric control components: resistors, relays, rheostats, contactors, etc. / Ma Ls(over 500) Le(1892) Ic

Wayne-George Corp., 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

Western Electronic Co., 717 Dexter Ave., Seattle 9, Wash. / AT 4-0200 / *C 62
Heat radiation analog our "Reastan". Also the general use "Western Electronic analog computer" / RMSa Ss(25) Me(1946) Ac

Westgate Laboratory, Inc., 506 S. High St., Yellow Springs, Ohio / ROckwell 7-7375 (Dayton, Ohio -- VIctor 9-1330) / *C 62
Research, development, prototype, and small lot production in electronics, physics, optics and photography; simulators and missile guidance equipment, digital computing and consulting services, controls, X-Y plotters and vehicle position displays, radio receivers and transmitters, industrial instrumentation, can leak testers, airborne servo systems for cooling of electronic equipment, eye movement cameras, air traffic control instrumentation / RMCa Ss(40) Se(1956) DICc

Westinghouse Electric Corp., 4454 Genessee St., P. O. Box 2025, Buffalo 5, N. Y. / NF 2-1500 / *C 61
Custom industrial control computers. Data logging equipment and programming controls / MSa Ls (6000) Le(1885) DIc

Westinghouse Electric Corp., Air Arm Div., P. O. Box 746, Baltimore 3, Md. / SO 1-1000 / *C 62
Analog and digital computers, analog/digital and digital/analog converters, and other complete line of peripheral equipment for military systems / RMSa Ls(4000) Me(1950) DAIc

Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y. / RE 9-3611 / *C 62
Receiving tubes: image, storage, multiplier phototubes; special purpose tubes; military and industrial cathode ray tubes / RMSa Ls(2500) Le(before 1930) Ic

Westinghouse Electric Corp., Research & Development Center, Pittsburgh 35, Pa. / EX 1-2300 / *C 62
Complete line of industrial computer systems. Digital: Prodac industrial computers for all industrial processes and electric utility generation and dispatching applications. Analog: economic dispatch computer for dispatching power on electric utility systems / RMSCa Ls(125,000) Le(prior to 1900) DAc

Westinghouse Electric Corp., Semiconductor Dept., Youngwood, Pa. / WA 5-7272 (Youngwood); CH 2-7400 (Pittsburgh) / *C 61
Silicon rectifiers; silicon transistors; Trinistor® controlled rectifiers; thermoelectric coolers; thermoelectric generators; hall generators; molecular functional electronic blocks / RMSa Ls Se(1956) Ic

Westronics, Inc., 3605 McCart St., P. O. Box 11250, Berry St. Sta., Ft. Worth 10, Tex. / WA 3-8211 / *C 62
Manufacturer of strip chart recorders / RMSa Ms (60) Me(1946) Ic

Wharf Engineering Laboratories, Fenny Compton, Leamington Spa, Warwicks, England (American agents -- Imtra Corp., 11 University Rd., Cambridge 38, Mass.) / Fenny Compton 230 / *C 61
Magnetic storage drums, tape readers, tape punches, switching transformers / RMSa Ss(10) Me(1948) Ic

Wheelock Signals, Inc., 273 Branchport Ave., Long Branch, N. J. / CApitol 2-6880 / *C 61
Miniature and special relays for computing equipment; wire contact plug-in, microminiature, sensitive, high speed, etc. / MSa Ms(200) Le(1925) Ic

Whitewater Electronics Inc., 136 W. Main St., Whitewater, Wisc. / 986 / *C 61
Coils and delay lines / RMa Ms(100) Se(1955) Ic

The Whitnon Mfg. Co., Route 6 and New Britain Ave., Farmington, Conn. / - / *C 62
Design and manufacture of analog and digital magnetic drums and discs of all sizes and speeds with drive and coating but without heads mounted / M(design)a Ms(50) Me(1946) Ic

Wiancko Engineering Co., 255 N. Halstead Ave., Pasadena, Calif. / EL 5-7186 / *C 62
Telemetry, control and data acquisition systems; pressure, acceleration and force transducers; test and calibration instruments / RMa Ms(240) Me(1946) Ic

John Wiley and Sons, Inc., 440 Park Ave. So., New York 16, N. Y. / MU 9-7630 / *C 62
Technical books / MSa Ms(300) Le(1807) Ic

Winchester Electronics, Inc., 19 Willard Rd., Norwalk, Conn. / VI 7-7231 / *C 62
Connectors, connector accessories, terminals / Ma Ls Me(1940) Ic

Winsco Instruments & Controls Co., 1533 26th St., Santa Monica, Calif. / GR 8-4728 / *C 62
Digital converters, temperature transducers, digital temperature controllers / Ma Ss(22) Se (1960) DICc

Wolf Research & Development Corp., 462 Boylston St., Boston 16, Mass. / COmmonwealth 6-1960 / *C 62
Digital computer consulting, programming, and operation. Bendix G-15D with trace generator / Ca Ms(150) Se(1954) DIc

Woods, Gordon & Co., 15 Wellington St. West, Toronto, Ontario, Canada (also at Montreal, London, Calgary, Vancouver) / EM 8-2751 / *C 62
Management consulting and system design / CPa Ms(53) Le(1930) Ic

Wright Engineering Co., Inc., 180 E. California Blvd., Pasadena, Calif. / MUrray 1-8488 / *C 62
Shaft encoders; magnetic digital logic components and systems; buffers and storage systems; data display oscilloscopes, delay lines, system and lab power supplies / Sa Ss(10) Se(1950) DAIc

Wright Line, a div. of Barry Wright Corp., 160 Gold Star Blvd., Worcester 6, Mass. / SW 1-0931 / *C 62
Specialists in data handling and filing systems. Data processing accessory equipment, computer department accessories, check handling equipment / RMSCa Ms(300) Me(1934) Ic

Z

Zator Company, 140½ Mount Auburn St., Cambridge 38, Mass. / TRowbridge 6-6776 / *C 62
Information retrieval research and artificial intelligence research / RCa Ss(5) Me(1947) Ic

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

BUYERS' GUIDE FOR THE COMPUTER FIELD:

PRODUCTS AND SERVICES FOR SALE OR RENT

(Cumulative, information as of June 1, 1962)

The purpose of this roster "The Buyers' Guide for the Computer Field: Products and Services for Sale or Rent" is to give information about the existence and in many cases the properties of every product or service in the computer field that is offered for sale or rent and about which we have received information in 1962. We have not tried this year to index entries re information received 1961 and earlier. This is the sixth cumulative edition of this roster.

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

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

Every entry is subject to editing.

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

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

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

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

Product Entry Form
for
THE COMPUTER DIRECTORY and
BUYERS' GUIDE, 1962

THIS IS THE INFORMATION WE WANT FROM YOU:

1. Name or identification of product (or service)?___
2. Brief description?___
3. How is it used?___
4. Price range? Between_____and_____
5. Under what particular heading should it be listed? (See the 1961 list of 200 headings)___

Note: Up to 25 words (subject to editing) will be published FREE.

If you want more than 25 words published, the charge for up to 50 words (still subject to editing) is $15.00

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

If you wish to FLAG your entry so that it will be quickly noticed, you can choose CAPITAL LETTERS for the name of YOUR COMPANY and YOUR PRODUCT, and a black ruled line all around your entry so that it is boxed, and the charge is $20.00

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

Organization_____
Address_____
This data supplied by_____
Title_____ Date_____

LIST OF HEADINGS

As a guide to the products and services offered in the computer field, please refer to the following list of some 202 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.

- 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
  - — Code ____C42A
  - — Computing ____C43
  - — Digital to Analog ____C44
  - — Magnetic Tape to Card ____C45
  - — Magnetic Tape to Paper Tape ____C46
  - — Magnetic Tape to Magnetic Tape ____C46A
  - — 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
- Fire Detecting and Extinguishing Equipment ____F4
- Floors ____F5
- Fuses ____F6

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
- Information Engineering ____I2A
- 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
- Motors ____M2A
- 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
- — Film ____R2.5
- — 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
- Research ____R12A
- Resistors ____R13
- Resolvers ..... ____R14
  - — Coordinate Transform ____R15
  - — Product ____R16
  - — Sine-Cosine ____R17
- Robots ____R18

S: Scanners ____S1

- Semiconductors ____S2
- Servomechanisms ____S2A
- Simulators ____S3
- Sockets ____S3A
- 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
- Telemetering Systems ____T10
- Terminals ____T11
- Test Equipment ____T11.1
- Thin-films, Magnetic ____T11.2
- Timing Devices ____T11.3
- 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

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

A2. ADDRESSING MACHINES

Elliott Industries, Inc.

A3. AMPLIFIERS

Airpax Electronics, Inc.
Amplifier Corp. of America, 398 Broadway, New York 13, N.Y. / amplifiers / DESCR: transistorized audio amplifiers to order; also constant output amplifiers by automatic volume control / A3
AR&DA Div. of All American Engineering Co.
Astrometrics, Inc.
Beckman Instruments, Inc.
Beckman Instruments, Inc., Berkeley Div.
Bryant Computer Products, Div. of Ex-Cell-O Corp. -- see M2 and S4
Cadre Industries Corp. -- see C2
California Instruments Corp.
Consolidated Electrodynamics Corp.
Control Data Corporation
DI/AN Controls, Inc.
Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / D-C amplifiers / DESCR: chopper-stabilized with 10kc bandwidth and drift less than 30 μv/day. New balance amplifier gives years of trouble-free operation / USE: all inputs and outputs available at patchbay / on request / A3
Electro Instruments, Inc., 8611 Balboa Ave., San Diego 11, Calif. / digital instruments and systems / DESCR: digital voltmeters, ohmmeters, ratiometers, analog-to-digital converters, digital-to-analog converters, XY recorders, wideband DC amplifiers, data acquisition systems, and other digital instruments / USE: in conjunction with computers, production checkout, missile checkout, and data acquisition systems / on request / A3
Epsco, Inc.
General Computers, Inc., 9000 W. Pico Blvd., Los Angeles 35, Calif. / 3-A Operational Amplifier / DESCR: chopper stabilized operational amplifier featuring high gain, 200,000,000 open loop; low offset, less than 100 microvolts long term; wide band, 100,000 cps at the -3 db point; and high output, ±35 ma at ±100 vdc / USE: amplification, integration, summation or combinations thereof / $135 to $150 / A3
General Data Corp. -- see C39
Gulton Industries, Inc.
Hewlett-Packard Co.
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / miniature servo amplifiers / DESCR: servo amplifiers in 2-watt, 4-watt, and 10-watt models / USE: for servo motors, size 5 to 18 and larger / $240 to $620 / A3
F. B. Mac Laren & Co., Inc.
Mace Corp. -- see A4
Maxson Electronics Corp.
Midwestern Instruments, Inc., 41st and Sheridan Rd., P.O. Box 7509, Tulsa 18, Okla. / conventional and solid state amplifiers / DESCR: chopper stabilized, DC and carrier amplifiers, digital and analog magnetic tape amplifiers, servo system amplifiers / USE: full range of instrumentation applications / $100 to $2000 / A3
F. L. Moseley Co.
George A. Philbrick Researches, Inc.
PM Electronics, Inc.
Redmond-Fairchild Inc. -- see D12
Sperry Farragut Co., Div. of Sperry Rand Corp.
Texas Instruments Inc., Apparatus Div., P.O. Box 6015, Dallas, Tex. / amplifiers / DESCR: broadband low noise parametric amplifiers capable of extremely high gain-bandwidth products for amplication through K_u band / - / - / A3
The Walkirt Co.

A4. MAGNETIC AMPLIFIERS

Airpax Electronics, Inc.
Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.
Feedback Controls, Inc.
Gulton Industries, Inc.
Hagan Chemicals & Controls, Inc.
Imm Industries

MACE CORP., 900 N.E. 13th St., Fort Lauderdale, Fla. / SOLID STATE AMPLIFIERS; all types of magnetic amplifiers, electromechanical devices / DESCR: complete variety magnetic amplifiers. Other solid state, servo-, and power amplifiers; magnetic readout devices, relays, frequency detectors, and focusing devices; electro-mechanical assemblies, SCR control magamps / USE: all types of amplification, servo drives, readout devices, relays, frequency detection, power supplies, instrumentation and control / $19 to $50,000 / A4

Midwestern Instruments, Inc. -- see A3
Pacific Magnetic Corp., Electronic Center, Romoland, Calif. / magnetic amplifiers / DESCR: made in various sizes up to 1KVA for applications such as control of servo-mechanisms, voltage and current regulators, instrumentation (transducers) speed controllers, and malfunction detection / USE: industrial and military applications such as Titan Ground Support Equipment and ATLAS Abort Sensing Instrumentation System (ASIS) / $20 to $380 / A4
Polyphase Instrument Co.
Potter Instrument Co., Inc.
Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / inductive components / DESCR: great variety of pulse and power transformers, power supplies, magnetic amplifiers, toroidal inductors, band pass filters, low pass filters and packaged networks / - / - / A4

A5. AUTOMATIC ASSEMBLY EQUIPMENT

Cadre Industries, Corp., 20 Valley St., Endwell, N.Y. / automatic shield stripper / DESCR: automatic shield stripper designed to strip braided wire shielding from coaxial cables, shielded wires, etc. at high production rates. Vital in areas where low signal integrity required / USE: operated by foot switch / $1295, or rental / A5
General Mills Electronics Group
Scientific Data Systems, Inc. -- see C24

A6. AUTOMATIC CONTROL EQUIPMENT

American Research and Manufacturing Corp.
Assembly Producers, Inc.
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio / Bailey 760 Digital Control System / DESCR: control system composed of standardized solid-state modules / USE: to automatically control a plant or process / - / A6
Beckman Instruments, Inc.
Beckman Instruments, Inc., Berkeley Div.
The Bendix Corp., Eclipse-Pioneer Div. -- see A7
Consolidated Electrodynamics Corp.
Control Logic Inc.
Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.
Electro Instruments, Inc. -- see A3
The Electro Nuclear Systems Corp.
The English Electric Co., Ltd., English Electric House -- see D1
Fenwal, Inc.
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept. -- see C32
Giannini Controls Corp.
Gilmore Industries, Inc.
Hagan Chemicals & Controls, Inc., Rte. 60 & Campbell's Run Rd., Pittsburgh 30, Pa. / Hagan "Optimac" Indicating Controller / DESCR: all solid-state, electronic, with control station forward and analog controller plugged in behind. Set point accuracy 0.25%. Power required is 117v 60 cycle regulated AC / USE: controls variables such as temperature, pressure or flow / $500 for 2 mode controller, $565 for 3 mode unit / A6
Image Instruments, Inc., 2300 Washington St., Newton Lower Falls 62,

Mass. / electro-visual devices / DESCR: machines which perform automatic inspection, comparison, and recognition. Developed by application of electronic and optical techniques of television and methods of information processing / USE: quality control in process manufacturing, photogrammetric image rectification, and imagery analysis / - / A6
Industrial Nucleonics Corp., 650 Ackerman Rd., Columbus 2, Ohio / Accu-Ray Process Control Systems / DESCR: systems for the precise measurement and automatic control of flowing processes / USE: paper industry: weight and moisture; metals: strip thickness; plastics: film thickness, data reduction, readout; process industries: fluids in pipes, tank, bin container / $500 to $25,000 / A6
Kidde Ultrasonic and Detection Alarms Div., Walter Kidde & Co., Inc.
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2
Litton Systems Inc., Data Systems Div.
Maxson Electronics Corp.
Moog Servocontrols, Inc.
Nortronics, a div. of Northrop Corp., Systems Support Dept.
Reflectone Electronics, Inc., a subsidiary of Universal Match Corp. -- see S3
Scientific Data Systems, Inc. -- see C24
Societe D'Electronique Et D'Automatisme
Strand Engineering Co.
Trio Laboratories, Inc.
Westinghouse Electric Corp., Air Arm Div., P.O. Box 746, Baltimore 3, Md. / development and manufacture of data processing and control systems and equipment / DESCR: analysis, specification, development and manufacture of high, medium and low speed digital, analog and hybrid data processing and control systems, subsystems and major components. Molecular (functional electronic block) microelectronic circuit techniques are featured / USE: military air, space and missile applications / $50,000 to multimillion (per application and customer order) / A6

A7. AUTOMATIC TEST EQUIPMENT

Beckman Instruments, Inc.
The Bendix Corp., Eclipse-Pioneer Div., Teterboro, N.J. / Bendix Electronic Systems Tester / DESCR: universal, automatic programmer-computer for the checkout of any complex weapons system. For use at any level of maintenance; reduces checkout to minutes / USE: airborne, land or sea vehicles / quotations furnished / A7
Cybetronics, Inc. -- see T11.1
DIT-MCO, Inc., Electronics Div.
Electro Instruments, Inc. -- see A3
Giannini Controls Corp.
Hathaway Instruments Inc.
Hewlett-Packard Co.
Imm Industries
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / Decision Master / DESCR: component reliability-testing device. Can test 1800 components for up to 10 parameters per hour / USE: semiconductor and small electronic parts testing / $20,000 to $30,000 / A7
Non-Linear Systems, Inc.
Scientific Data Systems, Inc. -- see C24
Sunshine Scientific Instruments, 1810 Grant Ave., Philadelphia 15, Pa. / testing and measuring instruments / DESCR: manufacturer of testing and measuring instruments. Distributing panel meters, test equipment. Modification, calibration, certification, special meters and dials, prototype engineering custom design, subcontract facility / - / - / A7

B1. BOARDS, PLOTTING

Electro Instruments, Inc. -- see A3
Maxson Electronics Corp.
Sunshine Scientific Instruments -- see A7
Westgate Laboratory, Inc., 506 S. High St., Yellow Springs, Ohio / special X-Y plotters / DESCR: 16" x 16", 30" x 30", and 11" x 17"; Symbols Front, back, continuous, point plotting; mil-specs; 60 and 400 cps; modular; auto pen lift; analog and digital / USE: drone position plotting, enroute displays, approach displays, altitude displays, air traffic control simulator displays, navigational displays / $3500 to $17,000 / B1

B2. BOARDS, PLUG

Cybetronics, Inc. -- see T11.1
Westgate Laboratory, Inc. -- see B1

B2A. BOARDS, PRINTED CIRCUIT

Beckman Instruments, Inc.
Cinch Manufacturing Corp.
Consolidated Systems Corp.
Corning Electronic Components, Corning Glass Works
Gulton Industries, Inc.
Hathaway Instruments Inc.
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see C14
Monroe Industries, Inc. -- see V1
Scientific Data Systems, Inc. -- see C12
Techniques Inc.
Westgate Laboratory, Inc. -- see B1

B3. BOARDS, STRIP TYPE

B4. BOBBINS, COIL WINDING

Alden Products Co.

B6. BREADBOARD KITS

Alden Products Co.
Harmon-Kardon, Inc., Data Systems Div., Ames Court, Plainview, N.Y. / Facilogic / DESCR: breadboard and instructional system of plug-in digital modules in frequencies to 5 Mc. / USE: breadboarding, teaching, construction of special test equipment / - / B6

C1. CABLE

Brand - Rex Div., 31 Sudbury Rd., Concord, Mass. / cable / DESCR: custom constructions multiconductor and coaxial cables, round or ribbon types, shielded, vinyl, polyethylene or neoprene jacketed / USE: interconnection, data transmission / - / C1
International Resistance Co.

C2. CABLE ASSEMBLIES

Alden Products Co.
Amphenol Connector Div., Amphenol-Borg Electronics Corp.
Cadre Industries, Corp., 20 Valley St., Endwell, N.Y. / cable assemblies / DESCR: cable assemblies with connectors attached, used for signal or power transmission. Produced from schematics or from customers' drawings, either interconnecting or internal harness type / USE: plugged or wired into equipment / $1 and $300 to $400 / C2
Dale Electronics, Inc.
Electropac, Inc.
Hathaway Instruments Inc.
Superex Electronics Corp.

C3. CAMERAS

Benson-Lehner Corp.
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden Compos-O-Line / DESCR: high-speed sequential card camera. Photographs reusable data from cards, produces positive or reversed negatives or reproduction proofs ready for platemaking / USE: publishing lists, directories, manuals, etc. / - / C3
Gordon Enterprises
Hewlett-Packard Co.
Midwestern Instruments, Inc. -- see C3A
Philips Electronic Instruments
Photon, Inc.
Traid Corp.
Westgate Laboratory, Inc.

C3A. CAMERAS, DATA RECORDING

Consolidated Systems Corp.
Hathaway Instruments Inc.
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / Model C Image Converter Camera / DESCR: camera that photographs transient phenomena in millimicrosecond range. Built around an image converter tube / USE: data recording / custom-built / C3A

Link Division, General Precision, Inc.
Midwestern Instruments, Inc., 41st and Sheridan Rd., P.O. Box 7509, Tulsa 18, Okla. / data recording cameras / DESCR: photographic and direct process oscillographs, analog and digital data recording, up to 50 channels, 6 KC flat frequency response / USE: instrumentation systems, graphic plotting / $1500 to $9000 / C3A
Midwestern Instruments, Inc. -- see D2 and I3
Telecomputing Services, Inc. -- see D2A
Traid Corp.

C4. CAPACITORS (COMPUTER TYPES)

Aerovox Corp.
American Lava Corp., Manufacturers Rd., Chattanooga 5, Tenn. / capacitors, miniature / DESCR: miniature ceramic capacitors designed for general and special purpose application in networks, computer modules, or military equipment. Technical ceramic substrates produced for computer module manufacture / - / - / C4
Arnold Ceramics, Inc., 1 E. 57th St., New York 22, N.Y. / STEMAG and RESISTA electronic components / DESCR: electrolytic and mylar capacitors; ceramic trimmer capacitors / - / 5¢ to $5 / C4
Astron Corp., 255 Grant Ave., E. Newark, N.J. / fixed capacitors and R.F. interference noise suppression filters / DESCR: manufacture the following capacitors; electrolytic, metallized mylar, metallized paper, mylar, paper, solid tantalum, R.F. interference filters; ceramics (manufactured by subsidiary Skottie Electronics) / USE: electronic circuits / wide price range / C4
Beckman Instruments, Inc., Berkeley Div.
CENTRALAB (The Electronics Div. of Globe-Union Inc.), 900 E. Keefe Ave., Milwaukee 1, Wis. / electronic components / DESCR: capacitors / USE: as basic components to circuits / varies / C4
Condenser Products Co.
Cornell-Dubilier Electronics, div. of Federal Pacific Electric Co.
Corning Electronic Components, Corning Glass Works
General Electric Co., Electronic Speciality Capacitor Product Section
Gulton Industries, Inc.
Hughes Semiconductor Division
P. R. Mallory & Co., Inc.
Plastic Capacitors Inc.
Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / capacitors / DESCR: complete line of paper, plastic film, mica and electrolytic capacitors / USE: electronic applications / - / C4
Southern Electronics Corp., 150 W. Cypress Ave., Burbank, Calif. / capacitors / DESCR: adjustable Polystyrene and other close tolerance capacitors for analog computers. Special computer capacitors for missile guidance systems / USE: in operational amplifiers / $3 to $70 / C4
Sprague Electric Co.
Texas Instruments Inc., Semiconductor Components Div. -- see C26
Transitron Electronic Sales Corp.
Vitramon, Inc.

C5. CARDS (SEE ALSO PUNCH CARDS)

Epsco, Inc.
E-Z Sort Systems, Ltd.
National Physical Laboratory, Mathematics Div.

C6. CARDS, PUNCH

Dennison Mfg. Co., Machines Systems Div. -- see P16
N. V. Electrologica
E-Z Sort Systems, Ltd.
National Physical Laboratory, Mathematics Div.
Remington Rand Univac -- see C24

C7. CARDS, MAGNETIC

C8. CHASSIS, METAL

Alden Products Co.
Hathaway Instruments Inc.

C9. CIRCUITS, ARITHMETICAL (FOR DIGITAL COMPUTERS)

Andersen Laboratories Inc.
Beckman Instruments, Inc.
CENTRALAB (The Electronics Div. of Globe-Union Inc.), 900 E. Keefe Ave., Milwaukee 1, Wis. / electronic components / DESCR: packaged circuits / USE: as basic components to circuits / varies / C9
Control Logic, Inc.
Delco Radio Div., General Motors Corp. -- see C10
The Electro Nuclear Systems Corp.
Harmon-Kardon Inc., Data Systems Division -- see C26
Imm Industries
Navigation Computer Corp. -- see C24A
Raytheon Co., Communications and Data Processing Operation, 1415 Boston-Providence Turnpike, Norwood, Mass. / digital modules, high speed / DESCR: a complete line of digital logic modules for up to megacycles speed. Line includes complete accessories / USE: facilitates digital circuit designs and programming / $50 to $400 / C9
Servomechanisms/Inc., 200 N. Aviation Blvd., El Segundo, Calif. / welded modules / DESCR: small, compact, lightweight electronic circuit modules using welding techniques / USE: all electronic circuit applications / - / C9
Texas Instruments Inc. -- see C26

C10. CIRCUITS, COMPUTER, PACKAGED

Alden Products Co.
American Bosch Arma Corp.
Andersen Laboratories Inc.
CENTRALAB (The Electronics Div. of Globe-Union Inc.) -- see C9
Computer Control Co., Inc.
Computer Logic Corp., 11800 W. Olympic Blvd., Los Angeles 64, Calif. / LOGIC-LAB / DESCR: ready-to-use 300 KC or 3 MC units; includes logic, storage, shift, or display units. Each LOGIC-LAB has removable program board and patch cords / USE: user patches own applications in simulation, test gear, teaching, or computing / $650 to $3240 / C10
Cornell-Dubilier Electronics, div. of Federal Pacific Electric Co.
Delco Radio Div., General Motors Corp., 700 E. Firmin St., Kokomo, Ind. / Delco Radio Digital Circuits (modules and cards) / DESCR: two series of cards and three series of modules, speeds to 10 megacycles / USE: any digital requirement / $12 to $75 / C10
Electropac, Inc.
Engineered Electronics Co., 1441 E. Chestnut Ave., Santa Ana, Calif. / G-Series Extended Service Digital Modules / DESCR: digital circuits on cards for operations up to 10 Mc / USE: synchronous or asynchronous digital systems / $16.75 to $119 / C10
Fairchild Semiconductor, 545 Whisman Rd., Mountain View, Calif. / circuits / DESCR: manufacture of silicon semiconductor products for computer logic circuits, both military and industrial grades. Microelectronic integrated circuits / USE: components for logic circuits: switches, gates, flip-flops, etc. / varies / C10
General Instrument Corp., Rectifier Div.
General Instrument Corp., Semiconductor Div.
Harmon-Kardon Inc., Data Systems Div. -- see C26
Hughes Semiconductor Div.
International Resistance Co.
Navigation Computer Corp. -- see C24A
Raytheon Co., Communications and Data Processing Operation -- see C9
Raytheon Co., Semiconductor Div.
Servomechanisms/Inc. -- see C9
Sperry Farragut Co., Div. of Sperry Rand Corp.
Sprague Electric Co.
Texas Instruments Inc. -- see C26
Transitron Electronic Sales Corp.

C11. CIRCUITS, LOGICAL (FOR DIGITAL COMPUTERS)

Andersen Laboratories Inc.
Beckman Instruments, Inc.
Bryant Computer Products, Div. of Ex-Cell-O Corp. -- see M2 and S4
Budd Electronics
CENTRALAB (The Electronics Div. of Globe-Union Inc.) -- see C9
Consolidated Avionics Corp.
Dale Electronics, Inc.
Delco Radio Div., General Motors Corp. -- see C10
DI/AN Controls, Inc., 944 Dorchester Ave., Boston 25, Mass. / PICO-BIT /

DESCR: digital logic element, small, superior reliability, flexibility, one circuit type performs all logic operations: AND, OR, INHIBIT, TRANSFER, STORE, DRIVE, COMPLEMENT, and BINARY COUNT / USE: miniature magnetic logic element, where minimum size, weight, and power consumption are mandatory. Earth satellite vehicles, submarines / - / C11

The Electro Nuclear Systems Corp.
Electropac, Inc.

ELECTROPLEX, INC., 120 West 131 St., Los Angeles 61, Calif. / DIGITAL PLUG-IN CIRCUIT MODULES (WELDED OR SOLDERED) AND DIGITAL SYSTEMS / DESCR: digital modules 250 KC and 5 MC; equipment power supplies; welded electronic modules; functional digital equipment; custom circuit design / USE: in all types of digital equipment / - / C11

Engineered Electronics Co., 1441 E. Chestnut Ave., Santa Ana, Calif. / U-Series Universal NOR Circuit Modules / DESCR: welded, encapsulated digital circuit modules / USE: large logic systems; can be used to form active circuits / $6.60 to $24.80 / C11

Epsco Inc., 275 Massachusetts Ave., Cambridge 39, Mass. / 1 and 5 megacycle digital circuit cards / DESCR: 10 basic low cost circuit cards serving virtually all system needs. Simplified logic design, military reliability, rugged constitution / - / $63 to $99.50 / C11

Fairchild Semiconductor -- see C10
General Electric Co., Specialty Devices Operation
Gulton Industries, Inc.

Harmon-Kardon, Inc., Data Systems Div., Ames Court, Plainview, N.Y. / digital modules / DESCR: encapsulated digital logic modules of frequencies from DC to 5/10 Mc in 4 Series for varied environmental conditions / USE: synthesis and fabrication of digital equipments / - / C11

Harman-Kardon, Inc., Data Systems Div. -- see B6 and C26
Harvey-Wells Electronics, Inc. -- see C24
Imm Industries

LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / logical circuits / DESCR: complete line of circuit building blocks; low power consumption coupled with high component and modular packing densities / USE: in digital systems / - / C11

Lockheed Electronics Co., Avionics and Industrial Products Div.
Navigation Computer Corp. -- see C24A
Raytheon Co., Communications and Data Processing Operation -- see C9
Scientific Data Systems, Inc. -- see C12
Servomechanisms/Inc. -- see C9
Sprague Electric Co.
Texas Instruments Inc. -- see C26

C12. CIRCUITS, PLUG-IN

Amplifier Corp. of America, 398 Broadway, New York 13, N.Y. / plug-in circuits / DESCR: transistorized plug-in boards, including amplifiers, oscillators, etc. for every requirement / C12

Beckman Instruments, Inc.
Bryant Computer Products, Div. of Ex-Cell-O Corp. -- see M2 and S4
CENTRALAB (The Electronics Div. of Globe-Union Inc.) -- see C9

Computer Logic Corp., 11800 W. Olympic Blvd., Los Angeles 64, Calif. / logic cards and systems / DESCR: complete line of 300 KC, 3 MC, and 10 MC plug-in logic cards; many analog cards; all 4 3/8 x 3 3/4; drawers, cages, power etc. / USE: user or CLC assembles parts to make custom systems / $13.50 to $350 (various components) / C12

Delco Radio Div., General Motors Corp. -- see C10
DI/AN Controls, Inc.
Electropac, Inc.

Engineered Electronics Co., 1441 E. Chestnut Ave., Santa Ana, Calif. / N-Series Decade Counters / DESCR: miniature, transistorized, plug-in decimal counters / USE: with EECo T- and M-Series modules / $104 to $314 / C12

Engineered Electronics Co., *a / T-Series Circuit Modules / DESCR: over 100 different germanium-transistor digital plug-in circuit modules / USE: synchronous or asynchronous digital systems / $5 to $40 / C12

Fairchild Semiconductor -- see C10
General Dynamics/Electronics
Harmon-Kardon Inc., Data Systems Division -- see C26

LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / plug-in circuits / DESCR: complete line of reliable and economical building blocks (plug-in circuits) / USE: with memory devices / - / C12

Monroe Industries, Inc. -- see V1
Navigation Computer Corp. -- see C24A
Raytheon Co., Semiconductor Div.

Scientific Data Systems, Inc., 1542 Fifteenth St., Santa Monica, Calif. / silicon logic modules / DESCR: all-silicon semiconductor digital logic modules in 250 kc, 1 mc, and 5 mc speeds plus relay drivers, display drivers, digital-to-analog converters, and mounting hardware / USE: to build digital systems / $65 to $390 / C12

Servomechanisms/Inc. -- see C9
Sperry Farragut Co., Div. of Sperry Rand Corp.
Superex Electronics Corp.
Texas Instruments Inc. -- see C26
The Walkirt Co.

C13. CIRCUITS, POTTED

CENTRALAB (The Electronics Div. of Globe-Union Inc.) -- see C9
Delco Radio Div., General Motors Corp. -- see C10
Electropac, Inc.
General Dynamics/Electronics
Harmon-Kardon Inc., Data Systems Division -- see C26
Navigation Computer Corp. -- see C24A
Polyphase Instrument Co.
Raytheon Co., Semiconductor Div.
Servomechanisms/Inc. -- see C9
Texas Instruments Inc. -- see C26

C14. CIRCUITS, PRINTED

Amphenol Connector Div., Amphenol-Borg Electronics Corp., 1830 S. 54th Ave., Chicago 50, Ill. / Intercon® Circuitry / DESCR: printed circuits on any substrate. Special process permits conductors to extend beyond substrate or be bent into tabs vertical to the substrate / USE: for laminated circuits / estimate made for each new design / C14

Beckman Instruments, Inc.
Bryant Computer Products, Div. of Ex-Cell-O Corp. -- see M2 and S4
CENTRALAB (The Electronics Div. of Globe-Union Inc.) -- see C9
Delco Radio Div., General Motors Corp. -- see C10
The Electro Nuclear Systems Corp.
Gulton Industries, Inc.
Harmon-Kardon Inc., Data Systems Div. -- see C26

LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc., 985 Commonwealth Ave., Boston 15, Mass. / printed circuit boards / DESCR: any standard or special base, any type of copper plating and all forms of finishes / - / - / C14

Magne-Head Div., General Instrument Corp.
Monroe Industries, Inc. -- see V1
Raytheon Co., Communications and Data Processing Operation -- see C9
Scientific Data Systems, Inc. -- see C12
Sperry Farragut Co., Div. of Sperry Rand Corp.
Sprague Electric Co.
Superex Electronics Corp.
Techniques Inc.
Texas Instruments Inc. -- see C26

C15. CLUTCHES

Clifton Precision Products Co., Inc.

C16. CLUTCHES, MAGNETIC

ACF Electronics Div., ACF Industries Inc.
Reeves Instrument Corp.

C17. COATINGS

C18. COATINGS, CONDUCTIVE

Acheson Colloids Co., a div. of Acheson Industries, Inc.

C19. COATINGS, PROTECTIVE

Acheson Colloids Co., a div. of Acheson Industries, Inc.
Monroe Industries, Inc. -- see V1

C20. COATINGS, SALT SPRAY RESISTANT

C21. COILS (COMPUTER TYPES)

El-Rad Manufacturing Co., 4300 N. California Ave., Chicago 18, Ill. / coils / DESCR: air core and toroidal coils for isolation and resonant applications / USE: pulse isolation; tuning / $1.50 and up / C21
Hathaway Instruments Inc.
Pacific Magnetic Corp.
Polyphase Instrument Co.
Sperry Farragut Co., Div. of Sperry Rand Corp.
Superex Electronics Corp.
Sylvania Electronic Systems, a Div. of Sylvania Electric Products Inc.
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif. / coils / DESCR: electromagnetic miniature / - / 50¢ to $5 / C21

C22. COMMUNICATIONS SYSTEMS (COMPUTER TYPES)

ACF Electronics Div., ACF Industries Inc., 48 Lafayette St., Riverdale, Md. / digital data transmission equipment / DESCR: modular system; has asynchronous-to-synchronous multiplex equipment as input device to data modem; multiplex equipment accepts all forms of digital signals; serializes into synchronous stream for transmission through data modem over standard Class 4a telephone lines / USE: transmission of data over wire lines / $7000 to $25,000 / C22
American Telephone and Telegraph Co. and Associated Bell System Telephone Companies, (Hq.) 195 Broadway, New York 7, N.Y. / DATA-PHONE Data Sets / DESCR: data terminals which connect compatible business machines to the telephone network or leased lines / USE: provide serial or parallel transmission of data, digital or analog, at speeds up to 2400 bps / monthly rental from $5 and up / C22
American Telephone and Telegraph Co. and Associated Bell System Telephone Companies, *a / high speed data service (TELPAK) / DESCR: data terminals and circuits especially designed to transmit digital data (up to 500,000 bps) or facsimile signals (up to 8 (8½x11) pages per minute) / USE: transmission of high speed data / price varies with terminal facilities and distance of service provided / C22
Cadre Industries Corp. -- see C2
Collins Radio Co., Information Science Center
Delco Radio Div., General Motors Corp.
Digitronics Corp., 1 Albertson Ave., Albertson, L.I., N.Y. / Digitronic Dial-O-Verter system / DESCR: transmits data over telephone lines at high speed, complete with verifications. Paper tape, punched card and magnetic tape terminals. Interchangeable media: paper tape to magnetic tape, etc. / USE: to transmit computer and administrative data / $130 to $1245 a month, rental / C22
Ferranti Electric, Inc.
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden Teledata / DESCR: transmitter-receiver for 5-, 6-, 7-, or 8-channel paper tape. Parity check for accuracy. Compatible with Data-Phone / USE: data communications / - / C22
Friden, Inc., *a / Friden Dual Teledata / DESCR: transmitter-receiver for 5-, 6-, 7-, or 8-channel paper tape. Transmits alternately over two transmission channels to double normal speed. Parity check for accuracy / USE: data communications / - / C22
Friden, Inc., *a / Friden Teledata Switching Control Unit / DESCR: regulates two-way Teledata transmission in multi-station hookups; signals that data is to be transmitted, selects receiving station, isolates malfunctions or line faults / USE: data communications / - / C22
Friden, Inc., *a / Friden Collecta-data 30 System / DESCR: advanced data collection system. Transmitters spotted throughout plant send data over common cable to central receiver which punches tape with automatic time-code entry. Variety of transmitting units for individual requirements: punched card, dual punched card, punched ID badge, combination card-badge. Special accuracy checks / USE: collects data in punched tape form for preparation of management reports; attendance recording / - / C22
Friden, Inc., *a / message and data communications equipment / DESCR: special Friden Flexowriters with 3- or 4-bank keyboards and 5- or 8-channel punched tape facilities; prepare original document and punched tape for transmission / USE: data communications / - / C22
General Electric Communication Products, Mountain View Rd., Lynchburg, Va. / TDS-90 Data Communication Terminal / DESCR: links major computer centers with remote locations; replaces single tape unit at each computer termination. Transmitted data is fed directly through the TDS-90 into central or remote computer facilities / USE: provides quick access to one central data processing facility from many locations / price dependent on complexity of installation / C22
The Hallicrafters Co., 4401 W. 5th Ave., Chicago 24, Ill. / data communication equipment / series of data modems (modulators - demodulators) permitting communication of up to 2400 bps over voice type communication channels. Units employ data coding, phase reversal modulation / - / $5000 to $6600 / C22
Imm Industries
International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N.Y. / IBM 1009 Data Transmission Unit / DESCR: for IBM 1401, or computer system having 1414 I/O control, for transmission and reception of data via communications lines. For use with another 1009, or 7701, 7702, 1013 or 7750 units; speeds to 300 cps. / USE: allows computer to serve as data receiving, sending terminal / Price: 1009 adapter feature for 1401: $100 monthly rental; $3750 purchase price. 1009 adapter feature for 1414: $200 monthly rental; $11,000 purchase price. 1009: $500 monthly rental; $26,400 purchase price. All prices exclusive of tax / C22
International Business Machines Corp., Data Processing Div., *a / IBM 7750 programmed transmission control / DESCR: unit links centrally-located computer with large network of communication lines and terminals. For use with 1410, 7040, 7044, 7070, 7074, 7080, 7090 or 7094 computers to facilitate creation of IBM Teleprocessing systems / Typical 7750: monthly rental $9600; selling price $553,000. All prices exclusive of tax / C22
International Business Machines Corp., Data Processing Div., *a / IBM 1001 Data Transmission System / DESCR: transmits information from punched cards and/or keyboard via telephone lines to a central location where it is reproduced in punched card form / USE: for low cost data transmission from remote locations / Prices: Terminal: $15-23 monthly rental; $575-900 purchase price. Receiving station: $90-115 monthly rental; $4250-5925 purchase price. All prices exclusive of tax / C22
International Business Machines Corp., Data Processing Div., *a / IBM 1013 card transmission terminal / DESCR: transmits from punched cards over leased communications lines at 300 characters/second to 7701, 7702 terminals, other punched card terminals, 1401 or 1410 computer equipped with 1009 data transmission terminal or a 7750 / Prices: Monthly rental: $800; selling price; $44,000. All prices exclusive of tax / C22
International Business Machines Corp., Data Processing Div., *a / IBM 7701 Magnetic Tape Transmission Terminal / DESCR: transmits information to another 7701, a 7702 terminal, a 1013 card transmission terminal, or a computer equipped with a 1009 or 7750. Transmission over telephone or high-speed telegraph lines at 75

or 150 characters/second / USE: rapid transmission of data from remote locations / Monthly rental $1175; selling price $55,000. All prices exclusive of tax / C22

International Business Machines Corp., Data Processing Div., *a / IBM 7702 magnetic tape transmission terminal / DESCR: faster version of the 7701, transmits data from magnetic tape to another 7702 terminal, 7701 magnetic tape terminal, 1013 card transmission terminal, or computer equipped with 1009 or 7750. Speed over leased communications lines to 300 characters/second. / Monthly rental: $1300; selling price $58,000. All prices exclusive of tax / C22

International Business Machines Corp., Data Processing Div., *a / Digital Subset Feature for the IBM data transceiver / DESCR: allows IBM data transceiver to send punched card data over dial telephone or high-speed telegraph lines to another similarly-equipped transceiver that automatically reproduces information / USE: transmission of data from remote locations / Monthly rental: $20; purchase price, $725. All prices exclusive of tax / C22

International Business Machines Corp., Data Processing Div., *a / IBM 65 Data Transceiver (non-printing) and IBM 66 Data Tranceiver (printing) / DESCR: permits the transmission and reception of data from punched cards over leased telephone lines or telegraph lines / USE: to transmit and receive data at remote locations / Prices: 65 data transceiver and control unit: monthly rental $175; selling price $7650. IBM 66 data transceiver (printing): monthly rental $195; selling price $9050. All prices exclusive of tax / C22

International Business Machines Corp., Data Processing Div., *a / IBM 357 data collection system / DESCR: an in-plant network of electronic reporting stations cable linked to a data recording station where information is automatically reproduced as punched cards / USE: to produce machine-processable information for management reports / Prices -- Input stations (up to 20 per output station): 357 card badge reader monthly rental $29 to $47, selling price $1075 to $1900. 372 manual entry monthly rental $14 to $20, selling price $600 to $800. Output station: 358 input control monthly rental $79, selling price $2915. 24/26 card punch monthly rental $62 to $87, selling price $3200 to $4875. All prices exclusive of tax / C22

Invac Corp.

ITT FEDERAL LABORATORIES, A DIV. OF INTERNATIONAL TEL. AND TEL. CORP., 500 Washington Ave., Nutley 10, N.J. / ITT-025 / DESCR: the ITT-025 is a general-purpose, stored program data processor which efficiently handles the processing of data from a large number of inputs and to a large number of outputs (256 total). This system employs magnetic core (65 K words), magnetic tape (16 tape units) and drum systems (262 K words) / USE: applicable to store and forward communications data processing system, simulator systems, process control systems, retrieval systems, etc. / - / C22

ITT Information Systems Div., 320 Park Ave., New York 22, N.Y. / ITT 7300 ADX System / DESCR: ITT 7300 ADX System is a telegraph and data switching system employing computer techniques to relay intelligence in various speeds, codes and formats / USE: message data switching and control system / $1 million to $3 million / C22

Litton Systems Inc., Guidance & Control Systems Div., 5500 Canoga Ave., Woodland Hills, Calif. / LC-800 / DESCR: system combines DDA and two-address G.P., airborne, real-time computer into fully transistorized aerospace navigation system; operates on inputs from inertial, aerodynamic, doppler-radar, automatic data-link, and radio-navigation aids / USE: for integrated instrument and control flight-data systems; computer supplies outputs for vehicle automatic control and for visual flight-data display applicable to both manned and unmanned, high performance vehicles capable of atmospheric flight, exit from the atmosphere, and atmosphere re-entry/ - / C22

Maxson Electronics Corp.

National Cybernetic Corp.

Omnitronics, Inc., Subsidiary of Borg-Warner Corp.

Philco Corp., a subsidiary of Ford Motor Co., Computer Div., 3900 Welsh Rd., Willow Grove, Pa. / command and control systems / DESCR: incorporates displays, special communications interfaces, and digital computers / USE: militarized and commercial / $500,000 and up / C22

Philco Corp., a subsidiary of Ford Motor Co., Computer Div., *a / advanced development and engineering/ DESCR: logical design, systems design, high-speed arithmetic units and memories, large capacity memories, information retrieval systems / USE: research and development / $50,000 and up / C22

Philco Corp., a subsidiary of Ford Motor Co., Computer Div., *a / real-time systems / DESCR: involving digital computers for use in integrated data processing and military applications / USE: militarized and commercial / $500,000 and up / C22

Radiation Incorporated

Radio Corp. of America, Electronic Data Processing

Republic Aviation Corp., Missile Systems Div.

Scientific Data Systems, Inc. -- see C24

Sylvania Electronic Systems, a Div. of Sylvania Electric Products Inc.

Tally Register Corp., 1310 Mercer St., Seattle 9, Wash. / data communication systems / DESCR: transmits and receives data over standard dial-up telephone lines, asynchronous, at 710-750 words/minute. Bell 402 Parallel Data-phone is used. Error detection and block delete codes can be utilized, with parity checking / USE: data link from test plant to computer / $1800 to $9000 / C22

The Teleregister Corp.

Teletype Corp.

C22A. COMPUTERS

American Hydromath Corp.

Beckman Instruments, Inc.

Bendix Corp., Bendix Computer Div., 5630 Arbor Vitae St., Los Angeles 45, Calif. / Bendix G-15 computer system / DESCR: 2176-word memory drum, alphanumeric electric typewriter, paper tape punch, photoelectric tape reader, magnetic tape unit, punched card adapter, universal code accessory, digital differential analyzer, graph plotter / USE: general purpose / $49,500 to $102,950 / C22A

Bendix Corp., Bendix Computer Div., *a / Bendix G-20 computer system / DESCR: 8192-word memory, control console, data communicator, paper tape and punched card accessories, magnetic tape units, disc memory, control buffer, 120-character line printer, auxiliary memory modules / USE: general purpose / $500,000 to $1,500,000 / C22A

Bendix Corp., Bendix Computer Div., *a / Bendix G-21 computer system / DESCR: multiple G-20 units, up to 3 central processors, true parallel processing operation; up to 57,344 words of system-common core memory, total 81,920 words high-speed memory / USE: special military purpose / $1,250,000 to $3,500,000 / C22A

Clary Corp., 408 Junipero St., San Gabriel, Calif. / Clary DE-60 Computer / DESCR: solid state digital computer for engineering, scientific, research and other mathematical applications. Available in desk or as small mobile unit / USE: for solving mathematical problems / $20,000 / C22A

Control Data Corporation

Datamation Inc.

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

Digital Service Labs

Douglas Aircraft Co., Inc., Douglas Computing Service

Electropac, Inc.

Elliott Bros. (London) Ltd., Elliott Computing Div.

Epsco, Inc. -- see C24

Ferranti Electric, Inc.

The Foxboro Co.

General Dynamics/Electronics

GPS Instrument Co., Inc. -- see C23

Imm Industries

Link Div., General Precision, Inc., Binghamton, N.Y. / analog, digital

and hybrid computers and character readers / DESCR: special purpose computers for simulation and process control and optical character reader for data processing / - / prices on request / C22A

Litton Systems, Inc., Guidance & Control Systems Division -- see C22, C24, C24A

Maxson Electronics Corp.

Nortronics, a div. of Northrop Corp., Electronics Systems & Equipment Dept.

Philco Corp., a subsidiary of Ford Motor Co., Computer Div., 3900 Welsh Rd., Willow Grove, Pa. / BASICPAC / DESCR: militarized, mobile, medium to high speed, general purpose data processor with paper tape and magnetic tape input/output / USE: military real-time command and central applications / $350,000 and up, reduced price for quantities / C22A

Philco Corp., a subsidiary of Ford Motor Co., Computer Div. -- see C24

Radio Corp. of America, Electronic Data Processing

Scientific Data Systems, Inc. -- see C24

Sylvania Electronic Systems

UNIVAC Military Operations of Sperry Rand Corp.

Westinghouse Electric Corp., Air Arm Div. -- see A6

C23. COMPUTERS, ANALOG

ACF Electronics Div., ACF Industries Inc.

AiResearch Mfg. Co. of Arizona, a div. of The Garrett Corp.

American Bosch Arma Corp.

American Hydromath Corp., 24-20 Jackson Ave., Long Island City 1, N.Y. / Stabilogauge, draft and stress computers / DESCR: portable mechanical analog computer / USE: problems in ship stability, stress, draft fore and aft / $500 to $1200 / C23

Andersen Laboratories Inc.

Applied Dynamics, Inc., 2275 Platt Rd., Box 612, Ann Arbor, Mich. / electronic analog computers / DESCR: desk top and console model general purpose electronic analog computers from 4 operational amplifiers to 128 amplifiers per cabinet including non-linear components / USE: research, simulation, dynamic data processing and teaching / $1500 to $150,000 / C23

ARGDA Div. of All American Engineering Co. -- see C24A

Atlas Precision Products Co. Div. of Prudential Industries, Inc.

Automation Management, Inc., P.O. Box 217, Westboro 95, Mass. / PerK I, PerK II; performance computer / DESCR: PerK I records actual production rate as a per cent of standard performance minute by minute. PerK II records per cent averaged from beginning of production run / USE: sensor is attached to office or factory machine to sense units produced or machine cycles. Rate of impulses is compared to standard rate and recorded on a chart in PerK / $250 to $490 / C23

Beckman Instruments, Inc.

Berkeley Division of Beckman Instruments, Inc., 2200 Wright Ave., Richmond, Calif. / EASE® Analog Computers / DESCR: new general purpose 2100 Series feature iterative or non-iterative operation. Systems include pinboard programming; digital control systems; IDACON TM plug-in module for conversion to iterative operation; IDAD TM mobile display console; operational amplifiers; function generators; computing resistors, capacitors in oven; electronic multipliers, resolvers. Portable, self-contained Quad Amplifier (Model 620) is part of a series of separately packaged analog components / USE: for simulation, optimization, and process control / $20,000 to $225,000 / C23

COMCOR, Inc.

Computer Engineering Associates, an affiliate of Susquehanna Sciences, Inc., 350 N. Halstead St., Pasadena, Calif. / Direct Analog Computer, Engineering Analysis Lab / DESCR: manufacture and sell passive element direct analog computers. Maintain Engineering Analysis Lab specializing in complex structural analysis on a consultant basis / USE: dynamic and static structural analysis / $100,000 and $1,000,000 / C23

DI/AN Controls, Inc.

Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / analog computers / DESCR: complete line of high precision analog computers, general and special purpose / USE: simulate physical systems; solve mathematical problems in science and engineering / on request / C23

Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.

Epsco, Inc. -- see C24

The English Electric Co., Ltd., English Electric House -- see D1

Feedback Controls, Inc.

General Computers, Inc. -- see G1

General Computers, Inc. -- see A3

General Dynamics/Astronautics a Div. of General Dynamics Corp.

General Dynamics/Electronics

GPL Div. -- General Precision, Inc., Pleasantville, N.Y. / airborne analog computers / DESCR: interprets Doppler radar information into readable form / USE: air navigation systems / - / C23

GPS Instrument Co., Inc., 180 Needham St., Newton 64, Mass. / compressed-time computers / DESCR: high-speed, high-accuracy repetitive analog computers, statistical and iterative types; computer center and services rental; computer components, function and noise generators, multiplier/divider, etc. / USE: general purpose dynamic analyses / $25,000 to $150,000 / C23

Hallamore Electronics Division of the Siegler Corp.

Heath Co., subsidiary of Daystrom Inc.

Imm Industries

**See Addendum, page 151

Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / analog computer systems / DESCR: analog computers and associated equipment for Navy ASW-weapon fire control systems; fire control elements for Polaris fire control system / - / - / C23

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

Lockheed Electronics Co.

Loral Electronics Corp.

F. B. Mac Laren & Co., Inc.

Mauchly Associates Inc. -- see C30

The Perkin-Elmer Corp.

George A. Philbrick Researches, Inc.

Reeves Instrument Corp.

Societe D'Electronique Et D'Automatisme

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

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

Sylvania Electronic Systems

Western Electronic Co.

Westinghouse Electric Corp., Air Arm Div.

Westinghouse Electric Corp., Research & Development Center

C24. COMPUTERS, DIGITAL

Advanced Scientific Instruments, 5249 Hanson Ct., Minneapolis 22, Minn. / ASI-210 Computer / DESCR: general purpose "desk type" computer for scientific and engineering computation, data handling, process and systems control. It can communicate directly with other ASI computers / USE: general purpose / C24

Advanced Scientific Instruments, *a / ASI-420 Computer / DESCR: general purpose computer for scientific and engineering computation, data handling, process control and system analysis; a medium scale computer; design has been programmer influenced / USE: general purpose / C24

Advanced Scientific Instruments, *a / ASI Advance II Computer / DESCR: large scale general purpose computer with reliability, speed and relatively low cost. Programmer influenced in design / USE: for scientific and engineering applications, data handling and process control -- general purpose / C24

American Bosch Arma Corp.

Andersen Laboratories Inc.

Automation Management, Inc. -- see C23

Autonetics Industrial Products, 3400 E. 70th St., Long Beach, Calif. / RECOMP II / DESCR: medium scale, general purpose, electronic digital computer for engineering, scientific and business applications. Fully transistorized construction, high-speed, large memory, easily programmed and operated / USE: engineering and scientific computation / $95,000 selling price; $2495 per month lease price / C24

Autonetics Industrial Products, *a / RECOMP III / DESCR: small-scale, general purpose electronic digital computer for engineering, scientific and business applications. Fully transistorized construction, high-speed, large memory, easily pro-

grammed and operated / USE: engineering and scientific computations / $65,000 selling price; $1495 per month lease price / C24

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio / Bailey 755 Computing Systems / DESCR: solid-state system to gather data, make on-line or off-line computations / USE: power and process industry applications / - / C24

Burroughs Corporation, 6071 Second Ave., Detroit, Mich. / Burroughs 205 automatic digital computer and auxiliary electronic data processing machines / DESCR: 4000 words magnetic drum storage, 80 additional words quick-access drum storage; 10 decimal digits and sign; paper tape, CARDATRON complete alphanumeric 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 2000 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 / B250 Electronic Data Processing System / DESCR: medium-scale, solid-state system which combines processing of punched cards, MICR documents and hand copy ledgers / USE: commercial applications; particularly suited for financial institutions / $225,000 to $385,000 / C24

Burroughs Corporation, *a / B260 Electronic Data Processing System / DESCR: medium-scale, solid-state system, has high-speed processing of punched cards; capable of reading to 1600 cards/minute, punching 300 cards/minute and printing 700 lines/minute. Main magnetic core memory capacity, 4800 characters to 9600 / USE: commercial applications / $172,000 to $200,000 / C24

Burroughs Corporation, *a / B270 Electronic Data Processing System / DESCR: medium-scale solid-state system designed as high-speed punch card/magnetic tape processor with additional components available for processing MICR documents in banking institutions / USE: commercial applications / $279,000 to $625,000 / C24

Burroughs Corporation, *a / B280 Electronic Data Processing System / DESCR: medium-scale, solid-state system combining the high-speed card processing capabilities of the B260 system with the advantages of magnetic tape storage. Main magnetic core memory access time, 10 microseconds; capacity, 4800 characters to 9600 / USE: commercial applications / $233,000 to $377,000 / C24

Burroughs Corporation, *a / B5000 Information Processing System / DESCR: incorporates compilers for problem-oriented languages ALGOL and COBOL into its master control program; may add second central processor without reprogramming. True multi-program processing and control / USE: for scientific and business application / $250,000 to $1 million, depending on size of system required / 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 / $26,750 or lease with option to buy / C24

Burroughs Corporation, *a / E-103 desk-sized digital computer / DESCR: a semi-automatic decimal digital computer with keyboard printer, optional paper tape and card adjuncts; program storage capacity, 128 instruction steps; internal memory, 220 12-digit-plus-sign words / USE: for business usage / $29,750 / C24

Clary Corp. -- see C22A

Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. / DDP-19 (Digital Data Processor) / DESCR: high speed, solid state computer with core memory and full range of peripheral equipment including analog input/outputs / USE: for real time engineering applications, data acquisition and data reduction, scientific problem solving and data processing / on request / C24

Computer Control Co., Inc., *a / SPEC / DESCR: small, solid state, general purpose computer with digital differential analyzer. Serial, binary, single address, stored program, 12-bit word / USE: research, digital computer training / $19,818 to $27,882 / C24

Computer Equipment Corporation

Computer Logic Corp.

Consolidated Avionics Corp.

Consolidated Controls Corp.

Control Data Corporation

Delco Radio Div., General Motors Corp., 700 E. Firmin St., Kokomo, Ind. / digital systems / DESCR: any size computer fabricated from off-the-shelf hardware / USE: ground or airborne / low to high depending on system size / C24

Designers for Industry, Inc.

DI/AN Controls, Inc.

Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.

The Electro Nuclear Systems Corp.

N. V. Electrologica, Stadhoudersplantsoen 214, The Hague, The Netherlands / X1-computer / DESCR: digital computer, high speed tape reader, input-output: punched tape, punched cards, magnetic tape, outputwriter, high speed printer drum, transistorized magnetic core memory up to 32768 words / USE: commercial and scientific / Nfl. 550.00.-- to Nfl. 3.000.000 / C24

The English Electric Co., Ltd., English Electric House -- see D1

Epsco, Inc., 275 Massachusetts Ave., Cambridge 39, Mass. / EPSCO Model 275 Controller-Processor / DESCR: electronic digital computer, automatically sequenced, stored programs, high interval operating speeds, high speed reading/recording; magnetic tapes, automatic input data conversion, output data printing; analog, digital inputs/outputs / USE: real time control, scientific and business data processing, automatic checkout / $68,000 and up / C24

Ferranti Electric, Inc.

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ont., Canada / GEMINI / DESCR: solid-state, general purpose computer, built in peripheral control; 18,000 additions/second, 4096 words of core storage; paper tape, card or typewriter input/output / USE: dual system for airline reservation, business data processing, scientific and general engineering / - / C24

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., *a / ATLAS / DESCR: large fast computer with single level addressable storage to over one million words. Addition time in floating point 1.3 us, multiply time 3.8 μs. Wide variety of peripherals including cards, paper tape, printers, drums, magnetic tape. Eight magnetic tape transfers may occur simultaneously with operation of input and output equipment and computation / USE: scientific, research and data processing / $4,000,000 to $10,000,000 / C24

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., *a / ORION / DESCR: medium to large size computer. Core store 4096-32,768 words. Full time sharing system with inter-program protection. All peripheral transfers independent of central machine. No practical limit to numbers or types of peripheral equipments. Built in floating point hardware / USE: general purpose data processing and scientific work / $800,000 to $2,000,000 / C24

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., *a / FP6000 / DESCR: solid state GP information processing system. Time sharing parallel program execution computer, full program protection, internal and external in-

terrupt. 6 μs or 2 μs core store, 4096-32,768 words. Addition rate 55,000 - 142,000/second including store access. Full range buffered peripherals for multiplex operation including high speed document sorters, direct high speed communication channels / USE: real time information processing; reservations systems; general data processing and high speed cheque sorting / $160,000 and up / C24

General Dynamics/Electronics

General Electric Co., Computer Dept., 13430 Black Canyon Highway, Phoenix 23, Ariz. / GE 210 / DESCR: general-purpose, all-transistorized digital computer. Primarily for banking field. Can be used in wide range of data-processing applications. Available with complete line of peripheral equipment / USE: banking, information processing / $500,000 to $800,000 / C24

General Electric Co., Computer Dept., *a / GE 225 / DESCR: medium-sized, general-purpose, all-transistorized digital computer, for data-processing by business, engineering, scientific. Full line of peripheral equipment available / USE: information-processing / $125,000 to $400,000 / C24

General Mills Electronics Group, 1620 Central Ave., Minneapolis 13, Minn. / AD/ECS-20 / DESCR: solid-state, parallel, mobile system; 19-bit (plus sign) word length and 2048-word (expandable to 4096) random-access magnetic core memory / USE: computation and control in mobile applications / $100,000 to $200,000 / C24

General Mills Electronics Group, *a / AD/ECS-37 / DESCR: solid-state, parallel, general purpose system; 36-bit (plus sign) word length and 4096-word (expandable to 8192) random access magnetic core memory / USE: military, scientific calculation, information processing / $150,000 to $250,000 / C24

Hallamore Electronics Division of the Siegler Corp.

Harmon-Kardon Inc., Data Systems Division -- see C26

Harvey-Wells Electronics, Inc., 14 Huron Drive, Natick, Mass. / digital modules, digital computer HW-15K / DESCR: high-speed digital modules up to 10 MC. Small (4K word memory) desk size digital computer. Dual channel counting systems / - / $2000 to $100,000 / C24

The Hoover Company, Electronics Div.

HRB-Singer, Inc., a subsidiary of The Singer Mfg. Co., 396 Fifth Ave., New York 18, N.Y. / SEMA 2000 / DESCR: high speed, random access, electronic memory attachment for conventional punched card equipment; magnetic memory drum; storage capacity 28,000 to 140,000 digits / USE: through control panel wiring; memory is attached to conventional punched card and paper tape equipment / $550 per month to $1150 per month / C24

International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N.Y. / IBM RAMAC 305 (Random Access Method of Accounting and Control) / DESCR: electronic data processing system offering access, within less than a second, to any one of up to 20-million characters stored in its magnetic memory / USE: continuous, or "in-line" accounting for all types of businesses / Monthly rental with punched card output, $1850 and up; with printed output, $2200 and up. Selling price with punched card output, $122,400 and up; with printed output, $144,500 and up. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a /IBM 604 Electronic Calculating Punch / DESCR: general purpose calculator consisting of 604 electronic calculating unit and 521 punching unit. Model 1 operates at 100 cpm; Model 2 at 50 cpm. / USE: business and scientific problems / Monthly rental, Model 1 - $550; Model 2 - $330. Selling price, Model 1 - $25,900; Model 2 - $20,200. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 609 calculator / DESCR: advanced punched card calculator using solid-state and magnetic core storage to perform rapidly addition, subtraction, multiplication and division. Operates at 200 cpm. / USE: business and engineering problems / Monthly rental, (basic system), $1175. Selling price $55,500. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 609 B-1 Calculator / DESCR: advanced calculator identical to larger counterpart, the 609, in size, speed and general applications. Differs in storage capacity and number of program steps incorporated / USE: business and engineering problems / Monthly rental, $735 to $1089. Selling price, $36,000 to $50,390. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 650 Data Processing System / DESCR: medium size system which is available in configurations using punched card, magnetic tape, paper tape, and with RAMAC / USE: business and scientific computing / Monthly rental, $3750 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 system made up of interconnected units. High-speed magnetic core storage allows any word to be located and put into use in twelve microseconds / USE: primarily for scientific computation / Monthly rental (typical system) $35,000 and up; selling price (minimum system) approximately $400,000 and up. Orders accepted on availability basis. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 705 Data Processing System / DESCR: a large-scale data processing system with 20,000 positions of magnetic core storage. IBM 705 II has 40,000 positions / USE: business problems / Minimum system: monthly rental, $21,150 and up. Selling price $886,400 and up. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 705 III Data Processing System / DESCR: similar to 705 I and 705 II with up to 80,000 positions of magnetic core storage and an input/output rate of 62,500 characters per second / USE: business problems / Minimum system: monthly rental $24,900 and up. Selling price $1,218,000 and up. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 709 Data Processing System / DESCR: large-scale system of inter-connected units. 709 incorporates a Data Synchronizer which permits system to read, write and calculate simultaneously / USE: commercial, scientific and engineering problems / Monthly rental $55,200 and up. Selling price $2,630,000 and up. Orders accepted on availability basis. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 1401 Data Processing System / DESCR: small to medium-size solid-state computer available in a wide variety of configurations, including punched card, paper tape, magnetic tape and RAMAC disk storage systems / USE: as independent processor or auxiliary system, for business problems / Basic system: monthly rental, $2575 and up. Selling price $125,600 and up. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 1410 Data Processing System / DESCR: an advanced intermediate data processing system with two and one-half times the speed and capacity of the 1401. Configurations available: card, tape, and with RAMAC / USE: business problems / Basic system: monthly rental, $5365 and up. Selling price, $244,550 and up. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 1620 Data Processing System / DESCR: a solid-state computer with up to 60,000 positions of core storage and paper tape and typewriter input/output; punched card I/O also available / USE: scientific, engineering and management science computations / Basic system: monthly rental, $1600 and up. Selling price $74,500 and up. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 7040 data processing system / DESCR: medium to large scale transistorized system utilizing an integrated central processing unit and core storage with highly flexible input/output capability. An 8-microsecond memory is utilized in modules ranging from 4096 words to 32,768 words / USE: business and scientific applications / Typical system: monthly rental, $11,850; selling price, $732,700. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 7044 data processing system / DESCR: similar in design to the 7040 with the following exceptions: utilizes 2.5 microsecond core memory; three modules range in size from 8192 words of core memory to 32,768 words. / USE: business and scientific applications / Typical system: monthly rental, $11,850; selling price, $732,700. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 7070 data processing system / DESCR: transistorized system ranging in size between medium and large scale systems, depending on number and types of units included. Card, card/tape, tape, and tape-RAMAC systems available / USE: business and scientific problems / Typical system: monthly rental $24,000; selling price, $1,077,400. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 7072 data processing system / DESCR: a scientifically-oriented intermediate data processing system for applications which do not require the high input-output speeds of the 7074 / USE: scientific applications / Typical system, including 1401: monthly rental $19,825; selling price $860,550. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Division, *a / IBM 7074 data processing system / DESCR: similar in design to 7070, while twice as fast processing business data and up to twenty times as fast in scientific computation / USE: business and scientific problems / Typical system: monthly rental $29,300; selling price $1,284,350. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Division, *a / IBM 7080 data processing system / DESCR: transistorized system, completely compatible with 705 I, 705 II, 705 III, permits high-speed transfer of information between tape units and main data storage. Processes business problems up to ten times faster than 705 / USE: business problems / Minimum system: monthly rental $45,575 and up; selling price $2,085,750 and up. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 7090 data processing system / DESCR: large-scale transistorized computer with improved synchronization of data to and from input/output devices. Offers extremely fast computing, with 32,768 word, 2.18 microsecond memory / USE: business and scientific problems / Typical system: monthly rental $63,500; selling price $2,898,000. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 7094 data processing system / DESCR: similar in design to the 7090 with the following exceptions: 2-microsecond memory speed, double-precision floating point arithmetic, seven index registers, new index complementing instructions. The 7090 and 7094 are compatible; all existing 7090 programs, with properly defined instructions, can be executed on the 7094 without change / USE: business and scientific problems / Typical system: monthly rental, $70,000; selling price $3,134,500. All prices exclusive of tax / C24

International Business Machines Corp., Data Processing Div., *a / IBM 1710 Control System / DESCR: a 1712 multiplexer and terminal unit and a 1711 data converter connected to a 1620 data processing system simplifies collection and analysis of analog data by using direct entry into the computer / USE: quality control applications, process studies and process optimization / Monthly rental, $3500-7000; Selling price, $140,000-280,000. All prices exclusive of tax / C24

LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2

Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / LIBRATROL 1000 Control Computer / DESCR: general-purpose, solid-state control computer. Memory capacity, 8008 words. Closed-loop operation. Built-in temperature control / USE: industrial control applications / $90,000 to $130,000 / C24

Librascope Div., General Precision, Inc., *a / LGP 30 Electronic Computer / DESCR: general-purpose, desk-size digital computer with memory capacity of 4096 words / USE: business data processing and scientific computation / $49,500 to $65,000 (marketed by Commercial Computer Div. of General Precision, Inc.) / C24

Librascope Div., General Precision, Inc., *a / RPC 4000 Electronic Computing System / DESCR: general-purpose, solid-state digital computing system with 8008-word memory capacity / USE: business data processing and scientific computations / $87,500 to $125,000 (marketed by the Commercial Computer Div. of General Precision Inc.) / C24

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

Litton Systems, Inc., Guidance & Control Systems Div., 5500 Canoga Ave., Woodland Hills, Calif. / LC-7000 / DESCR: high speed, parallel-word, single address, general-purpose computer; average instruction-execution rate of 125,000 operations per second / USE: applications such as bombing-navigation, missile-control, and weapon-control systems / - / C24

Lockheed Electronics Co.

Loral Electronics Corp.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility, 13350 U.S. Highway 19, St. Petersburg, Fla. / computer and test equipment / DESCR: digital, light weight, high speed, high capacity for airborne applications. General purpose and differential analyzers / USE: aircraft and missiles / $75,000 to $100,000 / C24

The National Cash Register Co.

Omnitronics, Inc., Subsidiary of Borg-Warner Corp.

Packard Bell Computer Corp.

Philco Corp., a subsidiary of Ford Motor Co., Computer Div., 3900 Welsh Rd., Willow Grove, Pa. / Philco 2000 Electronic Data Processing Systems / DESCR: high-speed asynchronous, large-scale system. Magnetic tape, paper tape and card input/output -- up to 32,768 word magnetic core memory; auxilliary drum storage available. Printing output, 900 lines per minute / USE: commercial and scientific data education of all types / $35,000 per month and up / C24

Philco Corp., a subsidiary of Ford Motor Co., Computer Div. -- see C22

Remington Rand Univac, 315 4th Ave., New York, N.Y. / UNIVAC File-Computer -- Model I, a medium-sized, general purpose, random access, digital, electronic computing system / DESCR: main drum storage 1070 words (optional 2000 words core storage in lieu of 1070 words main drum storage), average access time 2.5 milliseconds; basic add time 1.2 milliseconds. Input/output includes U.F-C Console, inquiry typewriter, 80 or 90 column punched-card system, high speed paper tape units, 1-10 magnetic tape units, high speed printer. Large capacity random access storage, 1-10 general storage drums, each able to store 180,000 seven-bit alpha-numeric characters / USE: business and scientific applications / $8000 to $21,000 / C24

Remington Rand Univac, *a / UNIVAC 490 Real Time System / DESCR: stored program computer with solid-state system; 16,384-32,768 words core memory. Access time 1.9 microseconds, add time 7.2-12 microseconds. System includes 12 input/output channels for handling magnetic tape, punched-card, paper tape, and on-line printer. Also communication equipment for remote devices such as UNICALL and agents

sets used in air lines reservation systems / USE: real-time, business and scientific applications / $18,000 and up / C24

Remington Rand Univac, *a / UNIVAC Solid State Model II computer systems 80- or 90-column / DESCR: magnetic tape oriented, medium-scale data processing system with drum and magnetic core storage. Basic central processor includes 2600 words of drum storage; 1280 words of magnetic core storage; 9 index registers. 6200 words of drum storage may be added. Optional devices available including Randex drum units. Model II system may include 10 Randex drum units, each having 24 million digits capacity / USE: general purpose system for business and scientific applications / $7100 to $15,500 / C24

Remington Rand Univac, *a / UNIVAC II - large scale electronic digital computing system / DESCR: core memory 2000-10,000 words, access time 20 microseconds. Basic add time 120 microseconds; input/output includes supervisory console, Unityper, Uniprinter, high-speed printer, 1 to 16 magnetic tape units -- Uniservo II. Peripheral equipment; card-to-tape and tape-to-card converters, tape verifier / business and scientific applications / $25,000 to $30,000 exclusive of tax / C24

Remington Rand Univac, *a / UNIVAC III - solid state, digital, electronic data processing system / DESCR: 8192-32,768 words core storage. Access time 4 microseconds. Basic add time 8 microseconds, maximum of 32 Uniservo III plus 6 Uniservos II, transfer rate 133,300 alphanumeric characters or 200,000 digits/second. Simultaneous read, write, compute. Also available: 80-90 tabulating card reader and punch units; card printing punch; paper tape reader and punch; high-speed printer / USE: business and scientific applications / $15,000 to $30,000 exclusive of tax / C24

Remington Rand Univac, *a / UNIVAC LARC / DESCR: general purpose computing system. Core memory 97,500 words. Access time 4 microseconds plus 100 words core memory with one microsecond access time. Basic add time 4 microseconds. Maximum of 60 magnetic tape units can be used. Maximum drum memory 6,000,000 words. System can include wide variety of input/output devices / USE: scientific and business applications / $135,000 and up / C24

Remington Rand Univac, *a / UNIVAC 1103A, large-scale scientific, digital computer / DESCR: utilizes magnetic tapes with forward and reverse read and a lattice arrangement to reduce drum access time. Core memory 4096-12,288 words; 8 microseconds access time; basic add time 6 microseconds; maximum 10 magnetic tape units. Also included on-line are 80 column card reader and punch, paper tape reader and punch and typewriter. Program interrupt feature permits microsecond switching to another program / USE: scientific applications / $25,000 to $45,000 / C24

Remington Rand Univac, *a / UNIVAC 1105, transistorized, buffered version of Univac 1103A / DESCR: core memory 8192-12,288 words; access time 8 microseconds; basic add time 6 microseconds, maximum 20 magnetic tape units. Drum storage 16,384-32,768 words. Average access time 17 milliseconds. Addressable drum for programming versatility. Visual display attachable for on-line output. Program interrupt feature permits processing data from other on-line units on priority basis / USE: scientific and commercial applications / $40,000 to $55,000 / C24

Remington Rand Univac, *a / UNIVAC 1107 thin-film memory computer / DESCR: multi-purpose, high-speed system. Solid-state, core memory 16,384-65,536 words. Access time 1.8 microseconds. Thin-film 128 word memory, access time 300 billionths of a second. Basic add time 4 microseconds. Sixteen bi-directional input/output channels. Peripheral equipment; magnetic tape, paper tape punched-card, high-speed printer, mass storage, real-time devices / USE: business, scientific and real-time applications / $32,000 to $60,000 / C24

Remington Rand Univac, *a / UNIVAC Solid State Model I 80 and 90-column tape systems / DESCR: medium-scale data processing system. Magnetic drum storage capacity 5000 or 9200 words. Average access time from .425 to 1.7 milliseconds. Add time: 85 microseconds. Up to ten magnetic tape handling units (UNISERVO II). Transfer rate: 25,000 characters/second. Randex Storage optional / USE: general purpose system for business and scientific applications / $9000 to $13,000 / C24

Remington Rand Univac, *a / UNIVAC Solid State Model I Step 80 and 90-column tape systems / DESCR: expandable medium-scale data processing system. Magnetic drum storage of 2400 to 5000 or 9200 words. Average access time from .425 to 1.7 milliseconds. Add time: 85 microseconds. Three index registers. Up to ten magnetic tape handling units can be incorporated (UNISERVO II). Randex Storage optional / USE: general purpose data processing system for business and scientific applications / $5550 to $9800 / C24

Remington Rand Univac, *a / UNIVAC Solid State Model I 80 and 90-column card systems / DESCR: medium-scale data processing systems compatible with 80 or 90-column cards. Consists of high-speed reader, central processor, high-speed printer and read-punch unit. Reads 450 cards/minute; punches 150 cards/minute; prints 600 lines/minute. Many optional features available such as index registers and Randex Storage / USE: general purpose computer for business and scientific applications / $6950 to $8100 / C24

Remington Rand Univac, *a / UNIVAC Solid State Model I Step 80 and 90-column card systems / DESCR: medium-scale data processing system. Basic configuration consists of high-speed reader, central processor, high-speed printer and punch unit. Magnetic drum storage of 2400 to 5000 or 9200 words. System expandable by addition of index registers and Randex Storage as well as paper tape reader and punch. Average access time from .425 to 1.7 milliseconds. Add time: 85 microseconds / USE: general purpose data processing system for business and scientific applications / $3650 to approx. $7500 exclusive of tax / C24

Republic Aviation Corp., Missile Systems Div.

Scientific Data Systems, Inc., 1542 Fifteenth St., Santa Monica, Calif./ SDS 910, SDS 920 general purpose digital computers / DESCR: 900 Series computers utilize core memory and silicon solid-state components. Complete line of peripheral equipment is available for general-purpose and systems integration applications / USE: general-purpose, scientific and engineering computation, and systems integration / $41,000 to $100,000 / C24

Scientific Data Systems, Inc. -- see C12

The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / digital computers / DESCR: data processing, programming, systems analysis, and machine services using IBM 650, 1401, 7070, 704, 709, 7090, 1620, and unit record equipment / USE: for business and scientific problems / on a contractual basis / C24

Société D'Electronique Et D'Automatisme

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

Sylvania Electronic Systems

Tech Serv Inc.

Thompson Ramo Wooldridge Inc., RW Div., 8433 Fallbrook Ave., Canoga Park, Calif. / TRW-130 (AN/UYK-1) Digital Computer / DESCR: fully militarized; parallel address; core 8K word memory, expandable to 32K words; 15-bit word length; "stored logic" design permits variable word length, order structure and instruction repertoire; programmable at machine or problem-oriented language levels, asynchronous I/O, NTDS compatible, automatic interrupt system / USE: on-line real time control and data processing / $83,500 / C24

TRW Computers Co., a div. of Thompson Ramo Wooldridge Inc., 8433 Fallbrook Ave., Canoga Park, Calif. / TRW-330 and TRW 340 Industrial Control Computer Systems / DESCR: drum and drum-core combination computer systems featuring high speed -- to 20,000 operations per second -- and up-time better than 99.5% / USE: on-line control of industrial processes such

as steel mills, power stations, and chemical and refining plants / $100,000 to $500,000 / C24

UNIVAC Military Operations of Sperry Rand Corp., Univac Park, St. Paul 16, Minn. / digital computing systems / DESCR: research, design, development and manufacture of high-speed electronic digital computers, data processing systems, peripheral equipment and programming services / USE: airborne, ground based and simulation / $34,500 and up / C24

U.S. Army, Ballistic Research Laboratories

Westinghouse Electric Corp., Air Arm Div.

Westinghouse Electric Corp., Research & Development Center, Pittsburgh 35, Pa. / PRODAC Computer Systems / DESCR: 1962 PRODAC computers designed for all forms of process control. 8 usec add time, 1.8 usec access core memory with auxiliary floating head drum; priority interrupt; flexible for all sizes of application, both present and predicted / USE: on line, open or closed loop control systems / $150,000 to $1,000,000 / C24

C24A. COMPUTERS, SPECIAL PURPOSE

ACF Electronics Div., ACF Industries Inc.

Aircraft Armaments, Inc. -- see C25

Applied Dynamics, Inc. -- see C23

AR&DA Div. of All American Engineering Co., 135 Main St., Belleville 9, N.J. / special purpose analog computer / DESCR: small electrically operated unit programmed to solve moderately complex equations. Functions are dialed in yielding a direct readout of the unknown / USE: design calculations / $100 to $500 depending on complexity of problem / C24A

Automation Management, Inc. -- see C23

Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio / Bailey 710 Analog Computing System / DESCR: system accepts analog data from measuring devices; computes using servos / USE: to compute efficiency, heat-rate, deviation from design, etc. / - / C24A

Beckman Instruments, Inc.

The Bendix Corp., Eclipse-Pioneer Div., Teterboro, N.J. / air data computer systems / DESCR: utilized to convert basic characteristics of air through which an aircraft is moving into information required in the operation of the aircraft and its systems / USE: aircraft installation / quotations supplied / C24A

Budd Electronics, 43-22 Queens St., Long Island City 1, N.Y. / special purpose computers / DESCR: special computer design, component design; logic circuitry, encoders and decoders; storage systems, displays, print-outs, and a wide variety of EDP equipment / - / - / C24A

Clary Corp., 408 Junipero St., San Gabriel, Calif. / Clary DAC-2500 Arithmetic Center / DESCR: a system component capable of accepting external control, receiving and storing data, performing arithmetic and logical operations and providing data and control output / USE: component of a system / $10,000 / C24A

COMCOR, Inc.

Computer Logic Corp.

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

DI/AN Controls, Inc.

Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / special purpose analog computers / - / USE: in training and control / on request / C24A

Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.

The Electro Nuclear Systems Corp.

Electropac, Inc.

Elliott Bros. (London) Ltd., Elliott Computing Div.

The English Electric Co., Ltd., English Electric House -- see D1

Epsco, Inc. -- see C24

Ferranti Electric, Inc.

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept. -- see C24, and C32

General Dynamics/Astronautics a Div. of General Dynamics Corp.

Harmon-Kardon Inc., Data Systems Division -- see C26

HRB-Singer, Inc., a subsidiary of The Singer Mfg. Co., 396 Fifth Ave., New York 18, N.Y. / SIM / DESCR: electronic memory system with programmable typewriter, adding machine, cash register, telephone, paper tape input and printed hard copy, punched paper tape, vocal read outs / USE: special purpose inventory control system / $750 per month to $1500 per month / C24A

Imm Industries

Industrial Nucleonics Corp. -- see A6

LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2

Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / AN/ASN-24 Navigation Computer / DESCR: solid-state, lightweight, airborne digital computer. Memory capacity, 2656 words. Weight, 37 lb. / USE: aircraft navigation, can be adapted for space-vehicle guidance / - / C24A

Librascope Div., General Precision, Inc., *a / CP-209 bomb-navigation computer / DESCR: incremental airborne digital computer with memory capacity of 2550 words / USE: first digital bomb-navigation computer on operational Navy bombers / - / C24A

Librascope Div., General Precision, Inc., *a / Centaur Guidance Computer / DESCR: solid-state, lightweight digital computer with 2688-word memory capacity. Weight (with input-output), 57 lb. / USE: guidance computer for Centaur space vehicle / - / C24A

Link Div., General Precision, Inc. -- C22A

Litton Systems, Inc., Guidance & Control Systems Div., 5500 Canoga Ave., Woodland Hills, Calif. / LC-100 / DESCR: special-purpose DDA computer / USE: with radar in the tracking of projectiles; analyzes ballistics trajectory information received from the radar to determine both the origin and projectile impact point / - / C24A

Litton Systems, Inc., Guidance & Control Systems Div., *a / LC-200 / DESCR: small, lightweight, special-purpose, incremental-type, digital computer with programming flexibility for variable word-length operations / USE: as a central computer to test new concepts in computing techniques / - / C24A

Litton Systems, Inc., Guidance & Control Systems Div., *a / LC-300 / DESCR: special-purpose, whole-number, lightweight, high performance computer; incorporates 30,000 - 18 bit words and has a designed-in versatility applicable to a wide family of real-time systems / USE: for missile guidance / - / C24A

Litton Systems, Inc., Guidance & Control Systems Div., *a / LC-400 / DESCR: real-time computer; four-address instruction word (core command, jump command, add command, and multiply command). Execution of all four commands is simultaneous with each instruction word-time / - / - / C24A

Litton Systems, Inc., Guidance & Control Systems Div., *a / LC-500 / DESCR: special-purpose computer / USE: for computations characteristic of helicopter flight, including a hybrid system of hyperbolic navigation, doppler dead reckoning, and inertial guidance. Also performs fuel-management and safe flight limit calculations / - / C24A

Litton Systems, Inc., Guidance & Control Systems Div., *a / LC-600 / DESCR: large input-output capacity airborne computer; provides control outputs and situation-display outputs with the capability comparable to that of large ground-based machines / USE: solving problems in navigation, weapon delivery, and cruise control / - / C24A

Litton Systems, Inc., Guidance & Control Systems Div., *a / LC-900 / DESCR: this computer contains a complete command list; can perform 266 iterations per second; has combined incremental and whole number system / USE: for solving real-time airborne navigation problems / - / C24A

Loral Electronics Corp.

Management Assistance Inc., 40 Exchange Pl., New York 5, N.Y. / special purpose data processing equipment; data processing; systems engineering; and data processing consulting / DESCR: WROC 452 selector expansion device / USE: to expand the selector capacity of IBM 400 and 500 series machines / $12,000 to $14,000 / C24A

Management Assistance Inc., *a / special purpose data processing equipment data processing; systems engineering; and data processing con-

sulting / DESCR: WROC 330 check digit calculator / USE: to either check or produce the self checking digit used for account numbers; mainly used in banks and trust companies / $2000 to $3000 / C24A
Mauchly Associates Inc.
Monitor Systems, Inc.
Navigation Computer Corp., Valley Forge Industrial Park, Norristown, Pa. / special purpose computers / DESCR: NAVCOR manufactures a complete line of solid state digital systems function modules with which it can assemble special purpose computers and data handling systems / C24A
Omnitronics, Inc., Subsidiary of Borg-Warner Corp.
Philco Corp., a subsidiary of Ford Motor Co., Computer Div. -- see C22, C22A, C24
Reflectone Electronics, Inc., a subsidiary of Universal Match Corp. -- see S3
Republic Aviation Corp., Missile Systems Div.
Rese Engineering, Inc., A & Courtland Sts., Philadelphia 20, Pa. / special purpose digital systems / DESCR: have built variety of special purpose systems for NASA, military and commercial programs. Use own "logix blocks" digital modules which cover 200 K to 5 MC range / - / - / C24A
Scientific Data Systems, Inc. -- see C24
Servomechanisms/Inc.
Soroban Engineering, Inc.
Sperry Gyroscope Co., Div. of Sperry Rand Corp.
Strand Engineering Co.
Sylvania Electronic Systems
Telecomputing Corp.
Trak Electronics Co., Inc. -- see C42A
Union Military Operations of Sperry Rand Corp.
Westinghouse Electric Corp., Air Arm Div.

C25. COMPUTERS, TEST EQUIPMENT

Aircraft Armaments, Inc., Industry Lane, Cockeysville, Md. / test and checkout equipment / DESCR: missile telemetering pre-flight (TITAN), component checkout (POLARIS), factory test (TERRIER), shipboard radar monitors (TERRIER, TALOS) / USE: for test and checkout of missile components and systems / custom / C25
Airpax Electronics, Inc.
American Bosch Arma Corp.
Beckman Instruments, Inc.
Delco Radio Div., General Motors Corp.
Epsco, Inc. -- see C24
Feedback Controls, Inc.
General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / computers, test equipment / DESCR: automatic testers for magnetic tape, tape tensiometers, ultrasonic tape cleaners, preventive maintenance equipment for magnetic tape / - / $595 to $35,000 / C25
Imm Industries
Harman-Kardon Inc., Data Systems Division -- see C26
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2
Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility -- see C24
Non-Linear Systems, Inc.
Radiation Incorporated
Scientific Data Systems, Inc. -- see C24
Sunshine Scientific Instruments -- see A7

C26. COMPUTER COMPONENTS

Aladdin Electronics, Div. of Aladdin Industries, Inc.
Alden Products Co., 1140 N. Main St., Brockton, Mass. / Alden "MITI" Modules / DESCR: low cost, injection molded modules, developed for Polaris program, are molded of nylon per MIL-P-20693 and are designed to contain circuit elements for interconnecting by welding or soldering to printed circuit board or matrix in a package of uniform insulation in the smallest practical size. Permits replacement of individual components, eliminates time consuming potting operation / USE: maximum density packaging of circuit elements / approx. 20¢ ea. in quantity / C26
Allied Control Company, Inc.
American Hydromath Corp.
Amperex Electronic Corp.
Applied Dynamics, Inc.
Astrometrics, Inc.
Atlas Precision Products Co., Div. of Prudential Industries, Inc.
Beckman Instruments, Inc.
Beckman Instruments, Inc., Berkeley Div.
Benson-Lehner Corp.
Bowmar Instrument Corp.
The Bristol Co.
Cadre Industries Corp., 20 Valley St., Endwell, N.Y. / custom assembly / DESCR: complete facilites for manufacturing cable assemblies, wiring harnesses, plug-in modules, wire wrap panels, soldered control panels and/or consoles and complete sub systems / USE: sub-assembly for installation in finished computers / various prices / C26
California Instruments Corp.
Cinch Manufacturing Corp.
COMCOR, Inc.
Computer Control Co., Inc.
Computer Equipment Corporation
Control Data Corporation
Cornell-Dubilier Electronics, div. of Federal Pacific Electric Co.
Corning Electronic Components, Corning Glass Works
Datex Corp.
Daystrom, Inc., Weston Instruments Div.
Delco Radio Div., General Motors Corp.
Dialight Corp., 60 Stewart Ave., Brooklyn 37, N.Y. / computer components / C26
Diamonite Products Mfg. Co.
DI/AN Controls, Inc.
Digital Development Corp.
Elgenco, Inc. -- see G1
Elliott Bros. (London) Ltd., Elliott Computing Div.
Elliott Bros. (London) Ltd., National Computing Div.
Epsco, Inc.
Ess Gee, Inc.
Fairchild Controls Corp.
Ferranti Electric, Inc.
Ferroxcube Corp. of America
General Dynamics/Electronics
General Electric Co., Computer Dept.
General Electric Co., Specialty Devices Operation, 1881 Lemoyne Ave., Syracuse, N.Y. / custom modules / DESCR: custom built integrated electronic devices for data processing use; military and commercial applications; also modules in missiles and satellites / USE: in computers and data processing equipment / $18 to $20,000 / C26
General Instrument Corp., Rectifier Div.
General Mills Electronics Group
Gilmore Industries, Inc.
GPE Controls, Inc. -- see C32 and I6
GPS Instrument Co., Inc.
Gulton Industries, Inc.
Harman-Kardon Inc., Data Systems Div., Ames Ct., Plainview, L.I., N.Y. / digital logic and systems / DESCR: specialized solid state design group, oriented and experienced in application of digital techniques to problems of digital computation and data handling / USE: end products are digital systems and computers / price dependant on system, ranges from $30,000 to $150,000 / C26
Harvey-Wells Electronics, Inc.
Hathaway Instruments, Inc.
Heath Co., subsidiary of Daystrom Inc.
Hewlett-Packard Co.
The Hoover Company, Electronics Div.
Houston Instrument Corp.
Hughes Semiconductor Division
Hydro Molding Company Inc.
IMC Magnetics Corp., Western Div., 6058 Walker Ave., Maywood, Calif. / solenoids / DESCR: ¼" diameter to 4" diameter; DC, AC rectified, rotary. Solenoid switch assemblies with subminiature switches and special latching mechanisms. Rotary relays are manually latched, solenoid released. Solenoid computer modules / - / - / C26
Imm Industries
Indiana General Corp., Electronics Div.
Information Products Corp.
International Rectifier Corp.
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / analog and digital computer components / DESCR: complete range of computer components, including encoders, X-Y plotters, integrators, differentials, miniature servos, servo amplifiers / USE: in analog and digital computers / - / C26
Edwin A. Lipps Engineering
Lockheed Electronics Co.
Lockheed Electronics Co., Avionics and Industrial Products Div.

Magnetic Research Corp.
Midwestern Instruments, Inc. -- see C3A, F1, H1, S2A, and T2
Monarch Metal Products, Inc.
Monitor Systems, Inc.
F. L. Moseley Co.
Nucleonic Products Co., Inc.
Pacific Magnetic Corp.
Packard Bell Computer Corp.
Paradynamics Inc., Control Electronics Div.
The Perkin-Elmer Corp.
Polyphase Instrument Co.
Potter Instrument Co., Inc., Sunnyside Blvd., Plainview, L.I., N.Y. / develop and manufacture computer peripheral equipment / DESCR: magnetic tape transports, high speed printers, perforated tape handlers, and magnetic record/playback heads / USE: data processing and computer systems / on request / C26
Radio Corp. of America, Semiconductor and Materials Div.
Raytheon Co., Industrial Components Div.
Raytheon Co., Semiconductor Div.
Regency Electronics, Inc.
Scientific Data Systems, Inc. -- see C12
F. W. Sickles Div., General Instrument Corp.
Soroban Engineering, Inc.
Sperry Farragut Co., Div. of Sperry Rand Corp.
Sperry Gyroscope Co., Div. of Sperry Rand Corp.
Superex Electronics Corp.
Sylvania Electronic Systems, a Div. of Sylvania Electric Products Inc.
Tech Serv Inc.
Techniques Inc.
Technitrol, Inc.
Texas Instruments Inc., P.O. Box 5012, Dallas 22, Texas / semiconductor components, resistors, capacitors / DESCR: diodes, rectifiers, silicon controlled rectifiers, resistors, capacitors, semiconductor networks, thin film circuits, modular circuits / USE: electronic circuitry / - / C26
Texas Instruments Inc. -- see T14, T15, and T16
Texas Instruments Inc., Semiconductor Components Div., Box 5012, Dallas 22, Tex. / computer components / DESCR: wide line of high-performance computer components including germanium and silicon transistors; solid circuit semiconductor networks; silicon diodes; silicon rectifiers; capacitors; resistors / USE: all areas of computer manufacturing / 12¢ (in qty.) to $450 / C26
Thompson Ramo Wooldridge Inc., RW Div.
Transitron Electronic Sales Corp.
Trio Laboratories, Inc.
Univac Military Operations of Sperry Rand Corp.
Valor Instruments, Inc.
Veeder-Root Inc.
Vernistat Division of the Perkin-Elmer Corp.
Victor Business Machines Division, Victor Comptometer Corp.
The Walkirt Co.
Ward Leonard Electric Co.
Westgate Laboratory, Inc.
Wright Engineering Co., Inc.
Wright Line, a division of Barry Wright Corp.

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

Allied Research Associates, Inc.
American Data Services, Inc., 2221 S. W. Fifth Ave., Portland 1, Ore. / computing services / DESCR: payrolls, sales analysis, general ledger, accounting, accounts receivable billings and various other financial and statistical data / USE: business, governmental and scientific groups / - / C27
Associated Sales Analysts, Inc., 220 West 42nd St., New York 36, N.Y. / data processing / DESCR: data processing of all commercial, engineering and military applications. Programming, consulting and systems evaluation / - / - / C27
Automated Accounting Center of Connecticut
Automated Procedures Corp.
Beckman Instruments, Inc.
Bell Aerosystems Co.
Ernest E. Blancke & Associates, Inc.
Capital Business Service, 520 E. Michigan Ave., Lansing, Mich. / data processing service / DESCR: complete service for accountants and businesses. Many tested standard programs. Experienced in paper tape handling. Nation-wide service / - / - / C27
C-E-I-R, Inc.
Civil Engineering Systems Laboratory
Compumatix, Inc. -- see C30
Computer Services, Inc.
Data Computing Corp., 229 Baldwin Rd., Hempstead, L.I., N.Y. / IBM service bureau / DESCR: processes diversified data (statistics, accounting, production, government and defense) utilizing IBM, EAM and computing machines. Services available either on contract or hourly rate basis / USE: as a substitute for "manual" data accumulation / $25 minimum charge / C27
Datamation, Inc.
Data Processing Corp., 311 S. Sharp St., Baltimore 1, Md. / data processing service / DESCR: management consulting and data processing services for the solution of business problems, operations research, forecasting. Large staff of experienced business systems analysts and programmers / - / - / C27
Data-Service, Inc.
Denver Electronic Computing Service, Inc.
Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / analog computing service / DESCR: Dian 120 Computers; 440 summing and integrating amplifiers, 70 multipliers, associated function-generating equipment, resolvers, diodes, relay amplifiers, recorders and plotting boards / USE: solution of scientific and engineering problems; simulation of physical systems / on request / C27
The Diebold Group, Inc.
Electric Boat Div., General Dynamics, Groton, Conn. / computer services / DESCR: 32K IBM 704; 1401; analog to digital and analog equipment. Special programs for structure analysis and "do-it-yourself" pipe stress available / - / - / C27
Electronic Data Service, Inc., 802 Philadelphia Pike, Wilmington, Del. / data center / DESCR: 80 column punched card tabulating service; 1401 IBM system and 7070 IBM. EDP system for lease; punched card and EDP educational program / USE: service / $4.50 to $250; hourly rates as fit need of client / C27
Electronic Processing Center Inc., 253 N. Broad St., Philadelphia 7, Pa. / data processing service / DESCR: prepares weekly and monthly reports on computer and tab from punch card and punched paper tape. Special projects on both 650 card and 1401 / USE: as service to customers without data processing equipment / $20 to $10,000 / C27
Elliott Bros. (London) Ltd., Computing Services Div.
Executive Computer Utilization, 161 W. Wisconsin Ave., Suite 5138, Milwaukee 3, Wis. / computer services / DESCR: system design, programming, and operations for companies not possessing adequate technical skills and/or equipment capabilities / systems and programming / $5 to $25 an hour / C27
Florida State University, Computing Center
Gannett Fleming Corddry and Carpenter, Inc., 600 N. Second St., Harrisburg, Pa. / computing and EDP services / consulting engineering firm with a 1620 IBM computer and other EDP equipment doing work for own organization plus operating a service bureau / USE: as a service to customers / - / C27
General Dynamics/Astronautics a Div. of General Dynamics Corp.
General Electric Co., Computer Dept., 13430 Black Canyon Hwy., Phoenix 23, Ariz. / computer services / DESCR: information processing, programming, systems analysis, computer services. Contractual arrangement for business, scientific and engineering problems. Information Processing Centers in Phoenix, Chicago, Washington, Schenectady, Sunnyvale, Calif. / - / - / C27
General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / computing services / DESCR: complete programming services; problem solving; programming research. Compiler development / - / hourly and contract rates / C27
GPS Instrument Co., Inc.
Gulton Industries, Inc.
Hammer Business Service

THE ITT DATA PROCESSING CENTER, Rte. 17 and Garden State Parkway, Paramus, N.J. / COMPLETE DATA PROCESSING SERVICES / DESCR: services from computer time to systems analysis

design and programming through IBM 7090, 1401 and supporting equipment; 200 analysts and programmers experienced in wide variety of computers. Direct communications data links between customer's office and our facility / USE: business, engineering, industry, science and government / equipment available on hourly or repetitive basis / C27

KCS Ltd.

Machine Computing Services, 138 S. Second East, Salt Lake City 11, Utah / machine computing services / DESCR: broker of idle time on a broad line of computer and punched card equipment, including peripheral, some security cleared. Consulting programmers, engineers, mathematicians, etc., available to help with any business or science problem / rates quoted by job or hour / C27

McDonnell Automation Center, Div. McDonnell Aircraft Corp., Box 516, St. Louis 66, Mo. / computing and data processing services, digital and analog / DESCR: facilities organized to serve the one-time need or the most comprehensive data processing requirements. Equipment includes IBM 7080, 7090 and 1401 / - / price depends on equipment and volume / C27

Mesa Scientific Corp., 12838 Weber Way, Hawthorne, Calif. / computing services / DESCR: mathematical and numerical analysis, mathematical modeling, computer programming, debugging, and problem solution on all commercially available analog and digital computers / - / - / C27

Midwest Research Institute

Mountain Associates

Mountain Data Systems, Inc., 4 Depot Plaza, Bedford Hills, N.Y. / business and scientific data processing / DESCR: data processing, problem solution, programming, systems analysis and IBM 1620 time rental. Educational applications including scheduling. Business applications from any punched paper tape code / - / C27

National Cybernetic Corp.

Pacific Tabulating & Statistical Ltd., B202, 355 Burrard St., Marine Bldg., Vancouver 1, B.C., Canada / data processing services / DESCR: computer and punch card services available employing Univac SS80, IBM 1401. Programming and systems analysis also offered / USE: for business, scientific and engineering problems / hourly use basis / C27

Philco Corp., Computer Div. (a Subsidiary of Ford Motor Co.)

RECORDING & STATISTICAL CORP. (Nationwide and Canada), Pacific Coast Offices: 417 Market St., San Francisco, Calif. / PROBLEM SOLVING / DESCR: from general accounting to solution of high detail, short schedule requirements of sub-contractors reporting to prime contractors or Dept. of Defense / USE: as required / - / C27

Reeves Instrument Corp.

THE SERVICE BUREAU CORP., A SUBSIDIARY OF IBM, 425 Park Ave., New York 22, N.Y. / COMPUTING SERVICES / DESCR: data processing, programming, systems analysis, and machine services using IBM 650, 1401, 7070, 704, 709, 7090, 1620, dataplotting, MICR reader-sorter, and unit record equipment. Extensive computer application experience in many fields. Preplanned applications include PERT (Program Evaluation and Review Technique); Rocket Fuel Analysis; Hydraulic Network Analysis; Military Parts Cataloguing; School Scheduling, Registration, and Grade Reporting; and others / USE: business and scientific problems / hourly or contractual basis / C27

Southwestern Computing Service, Inc.

Space Technology Laboratories, Inc., One Space Park, Redondo Beach, Calif. / research and development of missiles and space vehicles / DESCR: 2 IBM 7090's, 6 IBM 1401's, RCA 501, RCA 301, plus a special purpose data reduction and analog computation center/PROB: Systems engineering and technical direction of USAF ballistic missile programs and related space projects (e.g. Vela Hotel, OGO); management information processing systems / - / - / C27

Statistical Tabulating Corp. -- see C30

Systems Data Processing Co.

Systems Research Group, Inc.

Tabulating Service of Dallas

Telecomputing Services, Inc., 8949 Reseda Blvd., Northridge, Calif. / MIS-PEP Services / DESCR: applies data systems engineering to basic management control problems; offers a series of data processing services adaptable to a broad range of individual management requirements / USE: scheduled data processing services / based upon examination of requirements / C27

Univac Military Operations of Sperry Rand Corp.

U.S. Army, Ballistic Research Laboratories

U.S. Naval Weapons Laboratory, Computation and Analysis Lab.

U.S. Navy, Aviation Supply Office, Data Processing Div.

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

Allied Research Associates, Inc.

Applied Data Research, Inc.

Computer Associates, Inc.

Computer Usage Company, Inc., 655 Madison Ave., New York 21, N.Y.; 1825 Connecticut Ave., Washington 9, D.C.; 6266 Manchester, Los Angeles 45, Calif. / computer services / DESCR: analytical and programming services, scientific and data processing; computer time on 7090, 7070, 1401, H-800, etc. / - / hourly rates / C28

Data Computing Corp. -- see C27

Data Processing Corp. -- see C27

Electric Boat Div., General Dynamics -- see C27

Electronic Processing Center Inc. -- see C27

The English Electric Co., Ltd., English Electric House -- see D1

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ont., Canada / PEGASUS / DESCR: computer centre (at Toronto) is built around a Pegasus digital computer. Large program library available for this medium size digital general purpose computer / USE: applications in industry, science and engineering $65/hour / C28

General Dynamics/Astronautics a Div. of General Dynamics Corp.

General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / digital computing services / DESCR: problem formulation, numerical analysis; programming; problem solving; programming systems development; compiler development / - / hourly and contract rates / C28

The I.D.R. Co. (Industrial Data Reduction)

Mesa Scientific Corp. -- see C27

Multnomah Data Processing Center, 430 N.W. 10th Ave., Portland 9, Ore. / computing services / DESCR: IBM 1620 card system, IBM 1401 magnetic tape system, full data processing support, with analysis and programming in engineering, statistics, and management science applications / - / - / C28

National Bureau of Standards, Applied Mathematics Div.

National Cybernetic Corp.

National Physical Laboratory, Mathematics Div., Teddington, Middlesex, England / digital computing service / DESCR: specialists in numerical analysis including problems in applied mathematics and theoretical physics / USE: data processing / £30 an hour on DEUCE; £75 an hour on ACE / C28

Philco Corp., Computer Div. (a Subsidiary of Ford Motor Co.)

Science Research Associates, Inc., Data Services Div., 259 E. Erie St., Chicago 11, Ill. / digital computing services / DESCR: exclusive DocuTran(TM) photoelectric scanning service transcribes pencil marks to magnetic tape or cards; capability 5000 8½x11 sheets/hour. Related application and data processing services available / USE: tests, surveys, cumulative records, census data / - / C28

Scientific Computing Service

The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / digital computer services /

DESCR: data processing, programming, systems analysis, and machine services using IBM 650, 1401, 704, 709, 7090, 7070, 1620, and unit record equipment / USE: for business and scientific problems / a contractual basis / C28

Statistical Tabulating Corp. -- see C30

Technical Advisors, Inc.

Telecomputing Services, Inc. -- see C27

Union Carbide Nuclear Co., Central Data Processing

Westgate Laboratory, Inc.

Wolf Research & Development Corp., 462 Boylston St., Boston 16, Mass. / digital computer services / DESCR: scientific and engineering analysis. Business, military, and technical computer programming management and operation of computer installations. General computer consulting, feasibility studies, and equipment recommendations / - / - / C28

C29. CONNECTORS

Alden Products Co.

AMP, Inc.

Amphenol Connector Div., Amphenol-Borg Electronics Corp., 1830 S. 54th St., Chicago 50, Ill. / Tiny Tim® Microminiature Connector / DESCR: reliable microminiature rack and panel. Five to 33 contacts, 3 amps., 600 volts max.; 0.282" wide, 0.635" high, 0.650" to 2.243" long / USE: connecting device for miniaturized circuits / $0.73 to $3.33 / C29

Richard D. Brew & Co., Inc.

Burndy Corp., Norwalk, Conn. / connectors, printed circuit / DESCR: edge-on HYFEN printed circuit connector with solderless removable contacts. Unique bifurcated spring design. 15, 22, 43 place sizers / USE: printed circuit boards / depends on quantity and size / C29

Burndy Corp., *a / connectors, miniature round / DESCR: solder, solderless, and hermetically sealed BANTAM connectors which conform to requirements of MIC-C-0026482 C / USE: connector applications / depends on quantity, plating, etc. / C29

Cinch Manufacturing Corp.

Consolidated Electrodynamics Corp.

Continental Connector Corp., 34-63 56th St., Woodside 77, N.Y. / Series 600-121 printed circuit board receptacle / DESCR: 29 dual contacts (58 terminations) on .100" center spacing. For 1/16" PC board. Design permits stacking. Glass reinforced Diallyl Phthalate body material, Type GDI-30 per MIL-M-19833 / USE: printed circuit and computer applications / - / C29

Elco Corporation, "M" St. below Erie Ave., Philadelphia 24, Pa. / electronic components / DESCR: Varicon connectors for printed circuit, rack & panel, miniature, microminiature uses. Also micro-modular packaging; Varipak printed circuit card cage. Special connectors / $0.75 to $15 / C29

Winchester Electronics, Inc., 19 Willard Rd., Norwalk, Conn. / manufacture connectors, connector accessories, and terminals / DESCR: connectors: coaxial cable; electrical AN or MIL-C-5015; hermetically sealed or pressurized; interlock; miniature; power; printed circuit; RF; removable contact; solderless; subminiature. Connector hardware: hoods; shells; guides; plates; potting forms; pins and sockets; terminals. Tools / USE: in all phases of electronic industries / - / C29

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

Allied Research Associates, Inc.

Amber & Amber, 19925 Schaefer Rd., Detroit 35, Mich. / consulting service / DESCR: creative writing in science and engineering. Also programmed learning material / - / $7.50 to $10 per hour / C30

American Data Services, Inc.

The American University - EDPL

Applied Data Research, Inc.

Aries Corporation, 7722 Morgan Ave. South, Minneapolis 23, Minn. / consulting services / DESCR: consulting in areas of automatic programming techniques, systems engineering, operations analyses, reliability and quality control. Broad experience in digital systems and associated peripheral equipment / - / - / C30

Arkay Engineering, Inc.

Association of Data Processing Service Organizations

Auerbach Corporation, 1634 Arch St., Phila. 3, Pa. / consultants in field of information sciences and technology / DESCR: systems engineering, computer programming, business information systems, product and market planning, programmed teaching, computer comparisons / C30

Automated Procedures Corp.

Automation Engineers, 344 W. State St., Trenton 8, N.J. / data processing analysis / DESCR: cost reduction and methods improvement to data processing techniques; custom designed installations; registered professional engineers / USE: improvement to information processing systems / consulting fee based on time required / C30

Beckman Instruments, Inc.

Ernest E. Blancke & Associates, Inc.

Bonner & Moore Associates, Inc., 6910 Fannin St., Houston 25, Tex. / consulting services / DESCR: consulting in operations research, economics, data reduction systems, systems engineering, process control, computer applications and programming / - / - / C30

Bonner & Moore Associates, Inc. -- see E0, P12A and S9

C-E-I-R, Inc.

Chrono-log Corp.

Compumatix, Inc., 440 S. Brentwood Blvd., St. Louis 5, Mo. / management consulting and data processing / DESCR: management consultants specializing in automatic data processing, systems studies and operations research studies; computing equipment and programming staff available / USE: on a contract or hourly basis / equipment: $30/hr. to $400/hr.; personnel: $75/hr. to $200/hr. / C30

Computer Associates, Inc.

Computer Concepts, Inc.

Computer Engineering Associates, an affiliate of Susquehanna Sciences, Inc. -- see C23

Computer Logic Corp.

Computer Operations, Inc.

Computer Systems Consultants, P.O. Box 5352, Kansas City, Mo. / consulting service / DESCR: systems and programming service for small and medium sized businesses. Systems design, evaluation, and integration. Commercial and scientific programming. Assembler, compiler and simulator development / - / competitive prices / C30

Computer Usage Company, Inc. -- see C28

Control Technology, Inc.

Cybetronics, Inc., 132 Calvary St., Waltham 54, Mass. / consulting service / DESCR: research, development and consultation in computer and instrumentation fields. System analyses, evaluation and recommendations. Prototype and pilot production / - / hourly rates or contract price / C30

Daniel, Mann, Johnson & Mendenhall

Data Processing Corp. -- see C27

Datatrol Corp.

Designers for Industry, Inc.

The Diebold Group, Inc.

Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.

Arnold I. Dumey

Dynatech Corp., 17 Tudor St., Cambridge 39, Mass. / engineering and scientific consultants / DESCR: consultants for industry and government in mechanical engineering, especially heat transfer, thermodynamics, dynamics, cryogenics, vibrations, mechanics; solid state physics; chemical engineering; design and electrical engineering / C30

Ebasco Services Incorporated

Elliott Bros. (London) Ltd., Computing Services Div.

Executive Computer Utilization -- see C27

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept. -- see C28

Fischbach, McCoach & Associates, Inc.

Gannett Fleming Corddry and Carpenter, Inc. -- see C27

H. S. Gellman & Co. Ltd.

General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / consulting services / DESCR: mathematical studies; automatic programming; computer evaluation and selection; data handling methods; selection of peripheral equipment; magnetic tape

qualification studies / - / hourly and contract rates / C30
Hammer Business Service
Hathaway Instruments Inc.
S. Himmelstein & Co.
Hollander Associates, P.O. Box 2276, Fullerton, Calif. / consulting services / DESCR: consultation on analog and digital computer design and system organization. Comparisons of alternative designs and market value by unique analytic evaluation procedure. European liaison office / service / - / C30
Imm Industries
Informatics, Inc. -- see P12A
Ingenjörsfirma Nordisk ADB
Institute for Scientific Information, Inc.
The ITT Data Processing Center -- see C27
Jonker Business Machines, Inc. -- see I2 and I2A
KCS Ltd.
Edwin A. Lipps Engineering
Management Assistance Inc. -- see C24A
Mauchly Associates Inc., Ft. Washington Industrial Pk., Ft. Washington, Pa. / network planning and scheduling / DESCR: assistance in application of Critical Path Method, PERT, etc. Production of special purpose scheduling computers. Application of modern mathematical techniques to management problems / USE: Skeduflo computer is analog of scheduling net / $5000 to $10,000 / C30
H. B. Maynard & Co., Inc., 718 Wallace Ave., Pittsburgh 21, Pa. / consulting service / DESCR: cost reduction programs to insure most effective use of equipment and staff / - / - / C30
McDonnell Automation Center, Div. McDonnell Aircraft Corp., Box 516, St. Louis 66, Mo. / consulting services / DESCR: provide expert counsel to determine if or how data handling equipment can be most effectively utilized / - / - / C30
Mesa Scientific Corp., 12838 Weber Way, Hawthorne, Calif. / consulting services / DESCR: consulting in systems engineering, logic design, and circuit design related to computers, automatic test equipment, guidance and control systems. Programming and development of programming systems / - / - / C30
Midwest Research Institute
Mountain Associates
Mountain Data Systems, Inc. -- see C27
National Computer Analysts, Inc.
National Computer Analysts of New York, Inc., 107 Mamaroneck Ave., White Plains, N.Y. / consulting services / DESCR: specialists in systems design and programming of real-time data processing, communication systems, information systems and simulation techniques / - / - / C30
National Cybernetic Corp. -- see S9
Simon M. Newman
John K. Paden Co., 2624 Shelby St., Dallas 19, Tex. / consulting / DESCR: electronic data processing management consulting / service / - / C30
Philco Corp., Computer Div., (a Subsidiary of Ford Motor Co.)
James Addison Potter
Science Research Associates, Inc., Data Services Div. -- see C28
Scientific Computing Service
H. M. Semarne
The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / consulting services / DESCR: analytical and engineering services / USE: to aid in the formulation and design of the solution of data processing problems in business, science, and engineering / - / C30
The Simulmatics Corp.
Soroban Engineering, Inc.
Statistical Tabulating Corp., 140 S. Michigan Ave., Chicago 3, Ill. / C.A.M. Division (Computer Advisors to Management) / DESCR: professional consulting for business, science, and government in the economic evaluation and application of computer systems for management information and control / USE: prior to, during, or after installation of EDP/IDP / depends on nature and scope of problem to be solved / C30
Statistical Tabulating Corp., *a / SPACE Services Division / DESCR: support programs for aero-space components and equipment. Logistics; technical writing; provisioning parts breakdown; illustrated parts breakdown; spares documentation / USE: to co-ordinate logistics requirements of defense contractors / depends on nature and scope of problem to be solved / C30
Statistical Tabulating Corp., *a / TASK FORCE (division) / DESCR: organizational problem-solving with one or more temporary office personnel in various skill families (data processing and computer operators, programmers, supervisors; executive and technical; typing and stenographic; others) / USE: for conversions, peak loads, unusual situations, second shift operations, etc. / depends on nature of the problem / C30
Sutherland Co., 1112 First National Bank Bldg., Peoria, Ill. / management consulting / DESCR: management information system analysis, development, documentation, simulation and operation; data processing and communications equipment feasibility selection, techniques, systems, programs and procedures / - / - / C30
Systems Research Group, Inc.
Telecomputing Corp.
Telecomputing Services, Inc. -- see C27 and D2A
U.S. Air Force, Management Computations Branch, Data Processing Div.
U.S. Naval Weapons Laboratory, Computation and Analysis Lab.
Westgate Laboratory, Inc.
Wolf Research & Development Corp.
Woods, Gordon & Co.

C31. CONTROLS

AR&DA Div. of All American Engineering Co.
Assembly Producers, Inc.
Beckman Instruments, Inc., Berkeley Div.
Bendix Corp., Industrial Controls Section
Control Data Corporation
Control Logic, Inc.
Daystrom, Inc., Weston Instruments Div.
DI/AN Controls, Inc. -- see M2
Electro Products Laboratories, Inc.
E-Z Sort Systems, Ltd.
Fae Instrument Corp.
Fairchild Controls Corp.
Farrand Controls, Inc.
The Foxboro Co.
General Dynamics/Electronics
General Electric Co., Computer Dept.
Hagan Chemicals & Controls, Inc.
Hydropoise Inc. -- see T11A
International Business Machines Corp., Federal Systems Division
Kidde Ultrasonic & Detection Alarms Div., Walter Kidde & Co., Inc.
The Walter S. Kraus Co.
Litton Systems Inc., Data Systems Div.
Mace Corp. -- see A4
Moog Servocontrols, Inc.
Nortronics, a div. of Northrop Corp., Electronic Systems & Equipment Dept.
Nortronics, a div. of Northrop Corp., Precision Products Dept.
Packard Bell Computer Corp., 1905 Armacost Ave., Los Angeles 25, Calif./ digital system components / DESCR: an array of field proved digital system components which can be interconnected to build a variety of systems including automatic check out, data acquisition and recording, industrial control, and telemetry data reduction systems / - / $5000 to $6 million / C31
Philco Corp., a subsidiary of Ford Motor Co., Computer Div.
Philips Electronic Instruments
Republic Aviation Corp., Missile Systems Div.
Union Switch & Signal Div. of Westinghouse Air Brake Co.
Veeder-Root Inc.
Ward Leonard Electric Co.
Westgate Laboratory, Inc.
Winsco Instruments & Controls Co., 1533 26th St., Santa Monica, Calif. / digital temperature controllers / DESCR: digital set-point on-off and proportional types / varies / C31

C32. CONTROLS, AUTOMATIC

Airpax Electronics, Inc.
Amplifier Corp. of America
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio / 720 Analog Control System / DESCR: single and multi-element control systems using solid-state components / USE: to control process variables according to desired conditions / - / C32
The Bendix Corp., Eclipse-Pioneer Div. -- see C24A
Consolidated Controls Corp.
Datex Corp.
Fenwal, Inc.

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ont., Canada / ARGUS / DESCR: small, medium, large scale general purpose computer designed specifically for process control. Contains a revolutionary fixed program store using an inductive peg-board. Multi-input device with a high scanning rate, in excess of 10,000 points per second / USE: process control / $150,000 to $450,000 / C32
Giannini Controls Corp.
Gilmore Industries, Inc.
GPE Controls, Inc., 240 E. Ontario St., Chicago 11, Ill. / flow transmitter / DESCR: extracts square root providing 5 watts output linear to flow from orifice signal. 0-25 volts output integral transistor amplifier / - / $450 to $735 / C32
GPE Controls, Inc., *a / low pressure transmitter / DESCR: .2" wc minimum span, 0 to 25 volts at 5 watts output / USE: to measure furnace pressure, etc. / $350 to $400 / C32
Hagan Chemicals & Controls Inc., Hagan Ctr., P.O. Box 1346, Pittsburgh 30, Pa. / analog control systems / DESCR: solid state components -- include recorders, transducers, control computers and control stations. May be tied in with data processing or digital computer equipment / USE: controls final control elements after analyzing continuous analog signals / - / C32
The A. W. Haydon Co.
Imm Industries
Industrial Nucleonics Corp. -- see A6
Maxson Electronics Corp.
Sunshine Scientific Instruments -- see A7
Union Switch & Signal Div. of Westinghouse Air Brake Co.

C33. CONTROLS, SIGNALING

Radiation Incorporated
Sunshine Scientific Instruments -- see A7
Union Switch & Signal Div. of Westinghouse Air Brake Co.

C34. CONTROLS, SORTING AND COUNTING

Consolidated Electrodynamics Corp.
Ferranti Electric, Inc.
Societe D'Electronique Et D'Automatisme
Sunshine Scientific Instruments -- see A7

C35. CONVERTERS, ELECTRICAL

Audio Instrument Co., Inc., 135 West 14 St., New York 11, N.Y. / logarithmic converter / DESCR: newly refined varistor-amplifier circuit. Output signal is instantaneous logarithm (without regard to sign) of input signal / USE: for recording of rapidly varying quantities changing over a wide range of amplitude / $600 to $1500 / C35
Control Data Corporation
Cornell-Dubilier Electronics, div. of Federal Pacific Electric Co.
Epsco, Inc.
Hagan Chemicals & Controls, Inc.
Hathaway Instruments Inc.
Walter Kidde & Co., Inc., Kidde Electronics Laboratories

C36. CONVERTERS, ELECTRICAL, HIGH FREQUENCY

C37. CONVERTERS, ELECTRICAL, LOW FREQUENCY

C38. CONVERTERS, ELECTRICAL, POWER FREQUENCY

Pacific Magnetic Corp., Electronic Center, Romoland, Calif. / static inverters / DESCR: develops square wave output at frequencies of 380 cycles and higher / USE: for DC-DC and DC-AC applications requiring frequency of 60 cycles and higher / $45 to $250 / C38

C39. CONVERTERS, INFORMATION

Autonetics Industrial Products, 3400 E. 70th St., Long Beach, Calif. / VersaTape / DESCR: off-line paper tape preparation unit; records computer instructions and data on punched paper tape at low cost, saves valuable computer time / USE: prepares computer program tapes off-line; manual 10-key keyboard / $2500 selling price; $100 per month lease price / C39
Beckman Instruments, Inc.
Benson-Lehner Corp.
Computer Equipment Corporation
Delco Radio Div., General Motors Corp.
DI/AN Controls, Inc.
Digital Development Corp.
Electro Instruments, Inc. -- see A3
General Data Corp., 1250 N. Parker St., Orange, Calif. / data processing accessories / DESCR: Converters; analog-to-digital and digital-to-analog. Multiplexers; operational amplifiers; generator, parity check / - / - / C39
IMC Magnetics Corp., Western Div.
International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N.Y. / IBM 63 Card-Controlled-Tape-Punch / DESCR: the 63, consisting of card reading and tape punching units, reads alphameric information in IBM punched cards and perforates 5-track telegraphic paper tape with that data / USE: to convert data from punched cards to telegraphic tape that can be transmitted by commercial wire services / Monthly rental $75; selling price $3600. All prices exclusive of tax / C39
International Business Machines Corp., Data Processing Div. -- see C47 and C48
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / shaft position-to-digital converters / DESCR: line of 31 converters including Size 8, natural binary, binary-coded decimal, non-contact magnetic, Gray code, and nonlinear types / USE: data conversion / $176 to $1300 / C39
Lloyd Industries
Philco Corp., a subsidiary of Ford Motor Co., Computer Div.

C40. CONVERTERS, INFORMATION, ANALOG TO DIGITAL

Atlas Precision Products Co. Div. of Prudential Industries, Inc.
Beckman Instruments, Inc.
The Bendix Corp., Eclipse-Pioneer Div. -- see C24A
Consolidated Systems Corp. -- see S9
Datex Corp.
Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.
Electro Instruments, Inc. -- see A3
Electro-Mec Instrument Corp., 47-51 33rd St., Long Island City 1, N.Y. / DIGITOMETERS® (analog to digital converters) / DESCR: provides an accurate means of transposing rotary mechanical motion into an equivalent binary numerical notation. Output is unambiguous and code is reflected binary or Gray code / USE: converts shaft position directly into a digital value / stock models $195 to $395; specials on quotation / C40
The Electro Nuclear Systems Corp.
The English Electric Co., Ltd., English Electric House -- see D1
Epsco, Inc., 275 Massachusetts Ave., Cambridge 39, Mass. / VAD (Voltmeter/Analog to Digital Converter) / DESCR: universal voltmeter-analog to digital converter. Low cost, high speed, solid state, 4 digits, floating differential input. High and low speed conversion / USE: voltmeter or A to D converter / $2800 to $3800 / C40
Fischer & Porter Co., 330 Warminster Rd., Warminster, Pa. / analog-to-digital recorder / DESCR: analog-to-digital instrument records values in binary-decimal punched tape form; simultaneously supplies digital information in the form of electrical contacts / USE: may be used for telemetering if desired. Tape can be read directly or translated in standard punched tape or cards for computer processing / $300 to $500 / C40
FMA, Inc.
General Data Corp. -- see C39
General Mills Electronics Group
Genisco, Inc., 2233 Federal Ave., Los Angeles 64, Calif. / analog pulse duration converter / DESCR: operates on principle of a square loop magnetic core with control and read-out windings. Signals can be fed into tape, punch or electronic counter which performs as monitor, controller and digitizer / USE: complete data acquisition system

for monitoring or controlling temperature, pressure, chemical processing, atomic piles or for weighing and batching with sample and hold features available / $3000 and up, depending on number of channels required / C40
Gilmore Industries, Inc.
Gulton Industries, Inc.
IMC Magnetics Corp., Western Div. -- see C44
Lloyd Industries

NON-LINEAR SYSTEMS, INC., Del Mar Airport, Del Mar, Calif. / MODEL 15 ANALOG TO DIGITAL CONVERTER / DESCR: One to 100 volts full scale. 15,000 complete conversions/second. Accuracy ±0.01% ±1 digit. Bipolar B-C-D or straight binary output / USE: to convert analog voltages into form needed for digital computer input / $4985 / C40

Packard Bell Computer Corp.
Raytheon Co., Communications and Data Processing Operation, 1415 Boston-Providence Turnpike, Norwood, Mass./ converters, analog-to-digital / DESCR: ultra-high speed A/D converters for conversion rates from 200,000 to 5,000,000 per second with from 5 to 10 bit quantizing accuracies / USE: converts wide-band analog signals to digital form / $5000 to $13,500 / C40
Scientific Data Systems, Inc. -- see C12
Sperry Gyroscope Co., Div. of Sperry Rand Corp.
Sylvania Electronic Systems, a Div. of Sylvania Electric Products Inc.
Telecomputing Services, Inc. -- see D2A
Veeder-Root Inc.
Westinghouse Electric Corp., Air Arm Div.
Winsco Instruments & Controls Co., 1533 26th St., Santa Monica, Calif./ digital converter / DESCR: change in resistance to change in frequency display on counter / - / $25 to $3000 / C40

C41. CONVERTERS, INFORMATION, CARD TO MAGNETIC TAPE

Beckman Instruments, Inc.
The English Electric Co., Ltd., English Electric House -- see D1
Gilmore Industries, Inc.
Packard Bell Computer Corp.
Philco Corp., a subsidiary of Ford Motor Co., Computer Div.
Remington Rand Univac -- see C24
The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / card to magnetic tape converters / DESCR: contractual data processing. Conversion equipment available at hourly rates / C41

C42. CONVERTERS, INFORMATION CARD TO PAPER TAPE

American Data Machines, Inc., 7 Commercial St., Hicksville, N.Y. / Data Converter® / DESCR: compact unit incorporating both reader and punch acoustically housed, eliminating 90% of normal punching noise / USE: creates punched paper tape from edge punched card master file / $2100 to $2800 / C42
Autonetics Industrial Products, 3400 E. 70th St., Long Beach, Calif. / Recomp X-Y Plotter / DESCR: high-speed digital incremental plotter; provides graphic output of computer data. Fully transistorized, two axis discontinuous plotter / $5400 selling price; $220 per month lease price / C42
Autonetics Industrial Products -- see P16
Beckman Instruments, Inc.
Burroughs Corp.
Gilmore Industries, Inc.
Packard Bell Computer Corp.
Philco Corp., a subsidiary of Ford Motor Co., Computer Div.
The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / card to paper tape converters / DESCR: contractual data processing. Conversion equipment available at hourly rates / C42
Systematics, a Div. of General Instrument Corp., 3216 W. El Segundo Blvd., Hawthorne, Calif. / converters / DESCR: tape to card converters, card to tape converters, tape to tape converters, tape and card communication systems, data system input/output devices / - / $600 to $5000 / C42

C42A. CONVERTERS, INFORMATION, CODE

Autonetics Industrial Products -- see C39
Beckman Instruments, Inc.
Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. / 3C Code Bar Switches & Keyboards / DESCR: mechanical encoding of octal/decimal input to binary coded output via cam-type code bars and SPDT snap action switches. Parity and hermetically sealed models / USE: conversion from octal or decimal input to binary-coded output / $59 to $195 / C42A
DI/AN Controls, Inc.
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden Tape-to-Tape Code Converter / DESCR: reads on code (5-, 6-, 7-, or 8-channel tape) and simultaneously converts to another; makes various paper tape coding systems compatible / USE: data processing, graphotype addressing, teletypesetter, numerical control / - / C42A
Invac Corp.
Systematics, a Div. of General Instrument Corp. -- see C42
Trak Electronics Co., Inc., 59 Danbury Rd., Wilton, Conn. / Morse-to-Teletype Code Converter / DESCR: solid state mil spec special purpose computer. Converts Morse from 10 to 110 wpm to electrical impulses that drive a standard teleprinter / - / $18,000 to $50,000 / C42A
Westinghouse Electric Corp., Air Arm Div.

C43. CONVERTERS, INFORMATION, COMPUTING

Beckman Instruments, Inc.
Packard Bell Computer Corp.
Westinghouse Electric Corp., Air Arm Div.

C44. CONVERTERS, INFORMATION, DIGITAL TO ANALOG

Automation Management, Inc. -- see C23
Beckman Instruments, Inc.
Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.
Electro Instruments, Inc. -- see A3
The Electro Nuclear Systems Corp.
The English Electric Co., Ltd., English Electric House -- see D1
FMA, Inc.
General Data Corp. -- see C39
Gulton Industries, Inc.
Hewlett-Packard Co., 1501 Page Mill Rd., Palo Alto, Calif. / hp Model 580A Digital-to-Analog Converter / DESCR: converts 3 digits of BCD information to an analog voltage / USE: with electronic counters for making X-Y or strip chart records / $525 / C44
IMC Magnetics Corp., Western Div., 6058 Walker Ave., Maywood, Calif. / step-servo motors / DESCR: variable reluctance and permanent magnet types ranging from size 5 (½" dia.) to size 23 (2.250" dia.). Power levels up to 100 watts. / USE: as digital to analog and analog to digital converter. Also as open loop positioning servo / - / C44
Imm Industries
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale, Calif. / DIGILOG 1011 / DESCR: solid-state converter capable of 5000 A/D or 10,000 D/A conversions per second / USE: input for computers, data logging systems, etc. / $3700 to $4700 / C44

NON-LINEAR SYSTEMS, INC., Del Mar Airport, Del Mar, Calif. / MODEL 16 DIGITAL TO ANALOG CONVERTER / DESCR: 250,000 parallel conversions per second. ±10 volt range. ±0.01% accuracy. 0.05 ohm output impedance. B-C-D or binary input / USE: for entering digital computer output data into analog computers, recorders, etc. / $4985 / C44

Packard Bell Computer Corp.
Scientific Data Systems, Inc. -- see C12
Société D'Electronique Et D'Automatisme

Sperry Gyroscope Co., Div. of Sperry Rand Corp.
Westinghouse Electric Corp., Air Arm Div.

C45. CONVERTERS, INFORMATION, MAGNETIC TAPE TO CARD

Autonetics Industrial Products -- see C42 and P16
Beckman Instruments, Inc.
Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass. / 3C-210 Data Converter / DESCR: translates data to and from (1) magnetic tape in UNIVAC excess three code; (2) paper tape in UNIVAC II excess three code; (3) punched cards in IBM (Hollerith) 12 level code / USE: business and industry / $80,000 / C45
The English Electric Co., Ltd., English Electric House -- see D1
Packard Bell Computer Corp.
Remington Rand Univac -- see C24
The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / magnetic tape to card converters / DESCR: contractual data processing. Conversion equipment available at hourly rates / C45

C46. CONVERTERS, INFORMATION MAGNETIC TAPE TO PAPER TAPE

Beckman Instruments, Inc.
Computer Control Co., Inc. -- see C45
Digitronics Corp., 1 Albertson Ave., Albertson, L.I., N.Y. / Digitronics converters / DESCR: all solid state; converts between paper and magnetic tape at high speed. Image conversion, translation, format control, compatibility with almost every type of computer system / USE: off-line / $1400 to $2400 a month rental / C46
Packard Bell Computer Corp.
Philco Corp., a subsidiary of Ford Motor Co., Computer Div.
Tally Register Corp., 1310 Mercer St., Seattle 9, Wash. / magnetic tape to paper tape converter / DESCR: prepares paper tape from magnetic tape. Conversion at 60 paper tape characters/second. Full character verify, and duplication of paper tapes is available / USE: machine tool control program tapes, conversion of data from one computer to another / $55,000 with tape deck / C46

C46A. CONVERTERS, INFORMATION, MAGNETIC TAPE TO MAGNETIC TAPE

Autonetics Industrial Products -- see M2
Beckman Instruments, Inc.
Computer Control Co., Inc. -- see C45
Packard Bell Computer Corp.

C47. CONVERTERS, INFORMATION, PAPER TAPE TO CARD

Autonetics Industrial Products -- see P16
Beckman Instruments, Inc.
Computer Control Co., Inc. -- see C45
International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N.Y. / IBM 46 Tape-to-Card Punch / DESCR: reads alphameric information from a punched paper tape (Model 1: 5 and 8 track) (Model 2: 8 track), and converts it into IBM punched cards / USE: for reading of paper tape and conversion to punched cards / Model 1: monthly rental $140, selling price $5700. Model 2: monthly rental $135, selling price $5450. All prices exclusive of tax / C47
International Business Machines Corp., Data Processing Div., *a / IBM 47 Tape-to-Card Printing Punch / - / - / Model 1: monthly rental $160, selling price $6500. Model 2: monthly rental $155, selling price $6250. All prices exclusive of tax / C47
Packard Bell Computer Corp.
The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / magnetic tape to paper tape converters / DESCR: contractual data processing. Conversion equipment available at hourly rates / C47
Systematics, a Div. of General Instrument Corp. -- see C42
Underwood Corp. -- see D1

C48. CONVERTERS, INFORMATION, PAPER TAPE TO MAGNETIC TAPE

Autonetics Industrial Products -- see M2
Beckman Instruments, Inc.
Computer Control Co., Inc. -- see C45
Digitronics Corp. -- see C46
International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N.Y. / IBM 7765 Paper Tape to Magnetic Tape Converter / DESCR: solid-state 7765 transfers data from punched paper tape (chad or chadless) to magnetic tape (200 character per inch Mylar) at 150 characters a second / USE: conversion of punched paper tape to magnetic tape for direct computer input / Monthly rental $1475; selling price $69,500. All prices exclusive of tax / C48
Omnitronics, Inc., Subsidiary of Borg-Warner Corp.
Packard Bell Computer Corp.
Systematics, a Div. of General Instrument Corp. -- see C42
Tally Register Corp., 1310 Mercer St., Seattle 9, Wash. / paper tape to magnetic tape converter / DESCR: takes information on paper tape; converts to magnetic tape in variety of formats. Conversion at 120 paper tape characters/second. Uses 5 through 8 level tapes / USE: to convert information from typing systems to computer input, etc. / $26,000 / C48
Underwood Corp. -- see D1

C49. CORDS

Engineered Electronics Co.

C50. CORES

Ferroxcube Corp. of America
Magnetics Inc. -- see C52
Raytheon Co., Industrial Components Div.

C51. CORES, FERRITE

Ferroxcube Corp. of America, 2900 E. Bridge St., Saugerties, N.Y. / ferrites / DESCR: pot cores, memory cores, planes and stack, rods, tubes, slugs, switch cores, and recording heads / USE: computers, coils, transformers, recorders / 5¢ and up / C51
Indiana General Corp., Electronics Div.
Lockheed Electronics Co., Avionics and Industrial Products Div.
Radio Corp. of America, Semiconductor and Materials Div.
Superex Electronics Corp.

C52. CORES, MAGNETIC

Alden Products Co.
The Arnold Engineering Co. -- see M1
Ferroxcube Corp. of America -- see C51
Magnetics Inc., Butler, Pa. / bobbin cores / DESCR: high permeability nickel, in widths from 1/32" to 1/4"; tape thickness from 1/8 mil to 1 mil, in Orthonol and 4-79 Mopermalloy / USE: for computer shift registers and buffers / 50¢ per 100 to $2 per 100 / C52

C53. COUNTERS

Beckman Instruments, Inc.
Bowmar Instrument Corp.
DI/AN Controls, Inc.
Engineered Electronics Co.
Gordon Enterprises
Raytheon Co., Industrial Components Div.
The Walkirt Co.

C54. COUNTERS, ELECTRONIC

ANADEX INSTRUMENTS INC., 7617 Hayvenhurst Ave., Van Nuys, Calif. / DECADE COUNTER MODULE / DESCR: low cost solid state decade counter module with Nixie readout; 100 KC; fits 1-3/4" high rack mount; low power consumption; one power supply voltage required / USE: for display type decade counters / $75 to $95 / C54

Automation Management, Inc. -- see C23
Beckman Instruments, Inc.
Electronic Counters, Inc., 155 Eileen Way, Syosset, L.I., N.Y. / electronic counters / DESCR: high speed electronic timers, counters and digital "quick look" recorders / USE: general measurement and control / $330 to $2500 / C54
Harvey-Wells Electronics, Inc. -- see C24
Hewlett-Packard Co., 1501 Page Mill Rd., Palo Alto, Calif. / electronic counters / DESCR: many modes from 100 kc rate to 20 mc (500 mc with converters). 4-digit to 8-digit display. Electrical outputs (BCD, 10-line, voltage coded decimal) optional / USE: for measuring frequency, time interval, period and multiple period average, ratio / $475 to $3000 / C54
Veeder-Root Inc.

C55. COUNTERS, FREQUENCY

Automation Management, Inc. -- see C23
Electronic Counters, Inc. -- see C54

C56. COUNTERS, MECHANICAL

Bowmar Instrument Corp., 8000 Bluffton Rd., Ft. Wayne, Ind. / Series "LC" Mechanical Counters / DESCR: three, four, five drum types use Delrin Counter drums with or without vernier on input, die cast anodized aluminum frames, stainless right or left shafts / USE: most decimal counting applications. Some, but not all mil specs / $7.50 each* to $11.00 each* (*100 lots) / C56

C57. COUNTERS, PROPORTIONAL

C58. COURSES BY MAIL (COMPUTER FIELD)

Business Electronics Inc. -- see E1

D1. DATA PROCESSING MACHINERY

Addo-x, Inc. -- see T8
Anadex Instruments Inc. -- see T8
Astrometrics, Inc.
Automated Procedures Corp.
Automation Engineers
Autonetics Industrial Products -- see T9
Beckman Instruments, Inc.
Bell Aerosystems Co., P. O. Box 1, Buffalo 5, N.Y. / automatic data processing / DESCR: five computers -- IBM 607, two 1401s, 704 and 7090 / USE: engineering computation, accounts payable, payrolls, budgets / - / D1
The Bendix Corp., Eclipse-Pioneer Div., Teterboro, N.J. / Bendix Propulsion Data System / DESCR: provides a continuous check of engine performance, performs needed preflight and enflight engine computations, eliminating power schedule calculations / USE: aircraft installations / quotations furnished / D1
Benson-Lehner Corp.
Budd Electronics
Collins Radio Co., Information Science Center
Consolidated Electrodynamics Corp.
Control Data Corporation
Datamation Inc.
Data Sciences, Inc.
Douglas Aircraft Co., Inc., Douglas Computing Services
Electronic Counters, Inc. -- see C54
Elliott Bros. (London) Ltd., Elliott Computing Div.
Elliott Bros. (London) Ltd., National Computing Div.
The English Electric Co., Ltd., English Electric House, Strand, London, W.C. 2, England / data processing systems / DESCR: KDP10, KDF9, KDN2, data processing systems for commerce, industry and science. DATAPAC systems for all forms of data handling and logging. Turbine supervisory control systems / - / - / D1
Ess Gee, Inc., 15 Havens St., Elmsford, N.Y. / airborne instrumentation and data processing / DESCR: airborne instrumentation of meterological data, communications and peripheral computer equipment / USE: research projects / $20,000 to $200,000 / D1
Ferranti Electric, Inc.
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden Programmatic Flexowriter / DESCR: automatic writing machine. Reads punched tape, edge-punched cards, or tab cards from one or more input sources, produces documents, punches new tape or cards for further processing. Has facilities for connection of auxiliary input/output units. Automates preparation of original business documents and subsequent reports / USE: general data processing / - / D1
Friden, Inc., *a / Friden CTP Computyper / DESCR: automatic writing-computing machine. Reads and produces 8-channel punched tape, edge-punched cards, or tab cards from one or more input/output sources, prepares documents with all necessary calculations. Interchangeable pre-wired program panels permit quick switching of applications. Has facilities for connection of auxiliary input/output units / USE: billing and other data processing / - / D1
Friden, Inc., *a / Friden CTP3 and CTP4 Computypers / DESCR: same as CTP Computyper except that these models read and punch 5-channel tape. CTP3 has a 3-bank keyboard; CTP4 has a 4-bank keyboard / USE: billing and other data processing / - / D1
Friden, Inc., *a / Friden Selectadata / DESCR: searches punched tape for pre-selected data which is then read out on Friden Flexowriter or Computyper. Also provides program control / USE: general data processing / - / D1
Friden, Inc., *a / Friden Add-Punch / DESCR: punched tape adding-listing machine, ten key input keyboard. Performs regular adding machine functions and simultaneously punches tape for subsequent processing / USE: accounting and other data processing / - / D1
General Dynamics/Astronautics a Div. of General Dynamics Corp.
General Mills Electronics Group -- see C24
Gordon Enterprises
HRB-Singer, Inc., a subsidiary of The Singer Mfg. Co. -- see C24, C24A, R6
Imm Industries
Invac Corp. -- see I3
ITT Federal Laboratories -- see C22
Jonker Business Machines, Inc. -- see I2
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / L-3000 / DESCR: series of large-scale, multiple-computer data processing systems / USE: real-time command and control, management information systems, business data processing / typical monthly rental -- $50,000 / D1
Management Assistance Inc. -- see C24A
The National Cash Register Co.
National Data Processing Co., dept. of UNIVAC Div. of Sperry Rand Corp.
Packard Bell Computer Corp.
Philco Corp., a subsidiary of Ford Motor Co., Computer Div. -- see C22A, C24
Radio Corp. of America, Electronic Data Processing
Remington Rand Univac -- see C24
Republic Aviation Corp., Missile Systems Div.
Scientific Data Systems, Inc. -- see C24
Shand and Jurs Co., a subsidiary of General Precision Equipment Corp.
Soroban Engineering, Inc.
Sperry Gyroscope Co., Div. of Sperry Rand Corp.
Statistical Tabulating Corp.
Sylvania Electronic Systems, a Div. of Sylvania Electric Products Inc.
Telecomputing Corp.
The Teleregister Corp.
Underwood Corp., 1 Park Ave., New York 16, N.Y. / Underwood Data-Flo Systems / DESCR: produces punched paper tape as by-product of accounting or data originating applications, used centrally or in scattered locations. Tapes converted to cards or magnetic tape in central Data Centers / USE: in accounting or data originating applications / $1845 to $3995 / D1
Univac Military Operations of Sperry Rand Corp.
Westinghouse Electric Corp., Air Arm Div. -- see A6

D2. DATA RECORDING EQUIPMENT

Airpax Electronics, Inc.
American Data Machines, Inc., 7 Commercial St., Hicksville, N.Y. / data integrator / DESCR: produces for

automatic business machines tabulators, computers a "common language" perforated tape / USE: sequentially combines fixed data, variable data, identification data, time and count data / $3500 to $5100 / D2

American Data Machines, Inc., *a / Record-a-matic® / DESCR: prints, punches in one operation weekly time on single 80-column IBM card which is direct input to all data processing systems now manufactured / USE: time clock / $1195 / D2

Automation Management, Inc. -- see C23

Autonetics Industrial Products -- see T9

Beckman Instruments, Inc.

The Bendix Corp., Eclipse-Pioneer Div. -- see D1

The Bristol Co.

Bytrex Corp., 50 Hunt St., Newton 58, Mass. / multi-channel strain gage data loggers / DESCR: modular digital/recording systems for all combinations of strain gages, and strain gage transducers / USE: may be read out on typewriter, tape punch, printer / $25,000 to $50,000 / D2

Computron Inc. -- see T3

Consolidated Electrodynamics Corp.

Dashew Business Machines, Inc.

Datex Corp.

Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.

The Electro Nuclear Systems Corp.

Electronic Counters, Inc. -- see C54

Ess Gee, Inc.

Fischer & Porter Co. -- see C40

FMA, Inc.

The Foxboro Co.

General Dynamics/Electronics, P. O. Box 2449, San Diego 12, Calif. / S-C 4020 Computer Recorder / DESCR: records data from large scale digital computers onto 35mm microfilm and/or photorecording paper. Output takes form of plotted curves, tabular data, alphanumeric printing or combination; 17,400 characters/second or 12,500 graph plotting points/second / USE: on-line, off-line with digital computer systems / $214,440, options extra / D2

General Electric Co., Computer Dept.

Giannini Controls Corp.

Gilmore Industries, Inc.

Gordon Enterprises

Hagan Chemicals & Controls, Inc., Rte. 60 & Campbell's Run Rd., Pittsburgh 30, Pa. / Hagan "Optimac" Strip Chart Recorder / DESCR: electronic, solid-state, servo-powered 4-inch chart. One to 3 pens all in one case. 1-5 ma, 1-9 v or other standard DC or AC signals / USE: used to record such variables as temperature, pressure or flow / $285 for single pen, $200 for each additional pen / D2

Hathaway Instruments Inc.

Hewlett-Packard Co., 1501 Page Mill Rd., Palo Alto, Calif. / digital recorders / DESCR: prints to 11 columns of digits, rates to 5 lines/second. Models to accept BCD, 10-line, or voltage-coded input; some with analog output for X-Y, strip chart recording / USE: with electronic counters, DVM's, other equipment to record data / $1150 to $2250 / D2

Houston Instrument Corp., P. O. Box 22234, Houston 27, Tex. / recorders / DESCR; manufacture X-Y recorders, strip chart recorders, magnetic recording heads; voltmeters and electronic instruments / - / D2

Invac Corp.

LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / data recording equipment / DESCR: complete analog and digital recording systems / USE: data logging, aux., buffer and working (central) storage / - / D2

Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / Model 210 X-Y Plotter / DESCR: X-Y recorder with calibration accuracy of 0.05%, and push-button controls / USE: graphic presentation of digital or analog data / $1800 to $2800 / D2

Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / data recording equipment / DESCR: digital and analog tape transport, facsimile recorders, photographic and direct process oscillographs / USE: computer systems, off-line processing, information storage and retrieval / $1,500 to $17,000 / D2

Miles Reproducer Co., Inc.

Monitor Systems, Inc.

F. L. Moseley Co.

The National Cash Register Co.

The Perkin-Elmer Corp., Main Ave., Norwalk, Conn. / digitized infrared spectro-photometer / DESCR: provides data link between laboratory analytical instruments and the many general purpose computers. The digitized spectro-photometer automatically produce analysis data not generally obtainable by conventional methods / USE: used with any instrument or device which produces data as a shaft position, voltage or count / $25,000 to $30,000 / D2

Potter Instrument Co., Inc.

Radiation Incorporated

Sanborn Company, 175 Wyman St., Waltham 54, Mass. / oscillographic recording systems / DESCR: direct writing -- DC to 150 CPS -- complete systems using 8 channel amplifiers, basic systems using interchangeable preamplifiers, 1 to 16 channels. Single and 2-channel portables. 1 to 25 channel optical recorders featuring DC to 5000 CPS response / USE: to provide permanent records of physical or electrical variables / $750 (single-channel portable) to $8000 (multi-channel system) / D2

Sanborn Company, *a / X-Y Recorder Model 670A / DESCR: optical X-Y recording at speeds greater than 2500 inches/sec. Response of DC to 130CPS within 3 db. Uses interchangeable preamplifiers, uses ultraviolet sensitive paper. 8" x 8" recordings / USE: plots two slowly or rapidly moving variables / $2335 plus preamplifiers / D2

Scientific Data Systems, Inc. -- see C12

Shand and Jurs Co., a subsidiary of General Precision Equipment Corp.

The Standard Register Co.

Strand Engineering Co. -- see V1

Sylvania Electronic Systems, a Div. of Sylvania Electric Products Inc.

Telecomputing Services, Inc. -- see D2A

Vernistat Division of the Perkin-Elmer Corp., 771 Main Ave., Norwalk, Conn. / digital data recorder / DESCR: takes analog data, converts to digital, stores and translates information for punched tape output / USE: as an analog digital converter and translator / $7000 to $13,000 / D2

Westronics, Inc., 3605 McCart St., P. O. Box 11250, Berry St. Sta., Ft. Worth 10, Tex. / recording potentiometers / DESCR: universal, strip chart recorder will accept any input which can be transduced into an electrical signal and record this input versus time on a calibrated chart. Available in single, dual, triple or quadruple pens and multipoint models on 5" or 11" charts / USE: in industrial plants, laboratories, etc. / $720 to $3000 / D2

Wiancko Engineering Co.

D2A. DATA REDUCTION EQUIPMENT

Automation Management, Inc. -- see C23

Beckman Instruments, Inc.

Benson-Lehner Corp.

The Electro Nuclear Systems Corp.

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ontario, Can. / data rate changer / DESCR: magnetic tape unit, using loop of magnetic tape. High-speed input, slow-speed output, and vice versa. Synchronous or asynchronous operation. Transistorized read/write and control circuitry / USE: digital data transmission system / - / D2A

Fischer & Porter Co. -- see C40

General Dynamics/Astronautics a Div. of General Dynamics Corp.

Genisco, Inc.

Gordon Enterprises

Gulton Industries, Inc.

Industrial Nucleonics Corp. -- see A6

Invac Corp.

Jonker Business Machines, Inc. -- see I2

LFE Electronics, Computer Products Division, A Division of Laboratory for Electronics, Inc. 1079 Commonwealth Ave., Boston 15, Mass. / data reduction equipment / DESCR: time compression devices and systems, both standard and custom designed / USE: radar, sonar, communications, correlation data systems / - / D2A

LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2

Non-Linear Systems, Inc.

Sanborn Company, 175 Wyman St., Waltham 54, Mass. / data-amplifiers / DESCR: floating input-floating output amplifiers with 0-10KC bandwidth;

DC to 100 CPS bandwidth. Outputs can be fed to digital voltmeters, tape recorders, oscilloscopes, etc. Models with higher power outputs are available to drive high frequency galvanometers / $400 to $800 (price does not include 8-channel or single channel power supply) / D2A

Scientific Data Systems, Inc. -- see C12, C24

Stellarmetrics

Sylvania Electronic Systems, a Div. of Sylvania Electric Products Inc.

Telecomputing Services, Inc., 8949 Reseda Blvd., Northridge, Calif. / data reduction services / DESCR: services available for the measurement of any type of camera film, oscillograms, paper charts, etc. Computer programming and computing services available on hourly basis / USE: engineering problems / based upon examination of requirements / D2A

Wang Laboratories Inc., 12 Huron Drive, Natick, Mass. / special purpose data reduction systems / DESCR: systems to measure analog voltage signals and/or shaft positions, translate, and provide outputs as displays, and/or print-out, and punch-out on paper tape or IBM cards / USE: to provide immediate calculated results or inputs for a computer / $1000 to $15,000 / D2A

Westinghouse Electric Corp., Air Arm Div.

D3. DELAY LINES (COMPUTER TYPES)

ANDERSEN LABORATORIES INC., 501 New Park Ave., West Hartford 10, Conn. / DIGITAL DELAY LINES / DESCR: Custom design, engineering and manufacturing of solid-digital, magnetostrictive, and electromagnetic delay lines. Closed loop serial memory units at data rates from 100 KC to 30 mc / - / - / D3

Arenberg Ultrasonic Lab., Inc.

Audio Instrument Co., Inc. -- see T5

Beckman Instruments, Inc.

Richard D. Brew & Co., Inc.

Consolidated Avionics Corp., 800 Shames Drive, Westbury, N.Y. / "Vari-bit", a digital function generator / DESCR: magnetostrictive delay line for use in digital systems / USE: digital data systems as a delay line / $1975 / D3

Cornell-Dubilier Electronics, div. of Federal Pacific Electric Co.

Corning Electronic Components, Corning Glass Works

El-Rad Manufacturing Co., 4300 N. California Ave., Chicago 18, Ill. / delay lines / DESCR: both lumped constant and distributed constant types / USE: delay of pulses / 75¢ to $280 / D3

Ferranti Electric, Inc.

General Electric Co., Specialty Devices Operation

LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / delay lines / DESCR: ultrasonic and digital lines (quartz, glass & mercury). Custom-engineered with delays ranging from less than one to more than 4000 microseconds / USE: memory device in computers / D3

Paradynamics Inc., Control Electronics Div.

Polyphase Instrument Co., East 4th St., Bridgeport, Pa. / magnetic components / DESCR: pulse and specialty transformers; magnetic components; delay lines; magnetic amplifiers; filters / USE: circuit components / - / D3

Raytheon Co., Industrial Components Div.

Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / delay lines / DESCR: ultrasonic delay lines (manufactured by MICROSONICS, a subsidiary of Sangamo Electric Co.) are completely passive devices exhibiting wide bandwidth characteristics / USE: built for both commercial and military applications / - / D3

F. W. Sickles Div., General Instrument Corp.

Technitrol, Inc., 1952 E. Allegheny Ave., Philadelphia 34, Pa. / delay lines / DESCR: complete line of stock distributed constant delay lines. In addition, magneto-strictive delay lines 500 microseconds to 5 milliseconds delay, 1 and 2 megacycle bit rates / USE: bit storage and delay / $2.50 to $250 / D3

Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif. / delay lines / DESCR: lumped constant, fixed, tapped, continuously variable in midrosecond, nanosecond and millisecond regions / USE: temporary storage / $4 to $3000 / D3

Wright Engineering Co., Inc.

D4. DESK CALCULATORS

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

Underwood Corp.

D5. DIALS

Beckman Instruments, Inc.

Monroe Industries, Inc. -- see V1

Reeves Instrument Corp.

Sunchine Scientific Instruments -- see A7

D6. DIFFERENTIAL ANALYZERS

Gulton Industries, Inc.

Litton Systems, Inc., Guidance & Control Systems Division -- see C24, C24A

Packard Bell Computer Corp.

Reeves Instrument Corp.

D7. DIODES (COMPUTER TYPES)

Calvert Electronics Inc.

Clevite Transistor

Fairchild Semiconductor, 545 Whisman Rd., Mountain View, Calif. / diodes / DESCR: planar and planar-epitaxial diodes / USE: components for logic circuits: switches, gates, flip-flops, etc. / varies / D7

General Instrument Corp., Semiconductor Div.

Hughes Semiconductor Division

International Diode Corp. -- see D8

International Rectifier Corp.

Motorola Semiconductor Products Inc. -- see S2

Nucleonic Products Co., Inc.

Packard Bell Computer Corp.

Radio Corp. of America, Semiconductor and Materials Div.

Raytheon Co., Semiconductor Div.

Sanders Associates, Inc.

Sylvania Electric Products Inc., Semiconductor Div. -- see S2

Texas Instruments Inc. -- see C26

Thermosen, Inc.

Transitron Electronic Sales Corp.

D8. DIODES (COMPUTER TYPES) GERMANIUM

Clevite Transistor

General Instrument Corp., Semiconductor Div.

Hughes Semiconductor Division

International Diode Corp., 90 Forrest St., Jersey City, N.J. / diodes / DESCR: fast-switching germanium crystal diodes, switching at a fraction of a nanosecond / USE: in switching devices such as computers and other circuits / D8

Motorola Semiconductor Products Inc. -- see S2

Radio Corp. of America, Semiconductor and Materials Div.

Raytheon Co., Semiconductor Div.

Sylvania Electric Products Inc., Semiconductor Div. -- see S2

D9. DIODES (COMPUTER TYPES) POWER

Radio Corp. of America, Semiconductor and Materials Div.

Raytheon Co., Semiconductor Div.

Texas Instruments Inc. -- see C26

D10. DIODES (COMPUTER TYPES) SILICON

Clevite Transistor

Fairchild Semiconductor -- see D7

General Instrument Corp., Semiconductor Div.

Hughes Semiconductor Division

International Rectifier Corp.

Motorola Semiconductor Products Inc. -- see S2

Radio Corp. of America, Semiconductor and Materials Div.

Raytheon Co., Semiconductor Div.
Sperry Semiconductor Div. of Sperry Rand Corp.
Sylvania Electric Products Inc., Semiconductor Div. -- see S2
Texas Instruments Inc. -- see C26
Texas Instruments Inc., Semiconductor Components Div. -- see C26

D11. DISCS, MAGNETIC

BRYANT COMPUTER PRODUCTS, DIV. OF EX-CELL-O CORP., 850 Ladd Rd., Walled Lake, Mich. / MAGNETIC DISC FILES / DESCR: Series 4000 random access disc files of modular construction, with capacities from 30,000,000 to 720,000,000 bits. Digitally-addressed, mechanical positioner for simultaneous positioning of up to 288 heads in 100 milliseconds. Parallel or serial recording. Selective alteration of information. Discrete clocking. Speeds of 900 or 1200 RPM / USE: commercial, industrial, military applications; communications / - / D11

LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / magnetic discs / DESCR: standard or custom Bernoulli Disc devices and complete memory/storage systems. Rotating magnetic data storage device using Bernoulli principle to stabilize flexible recording medium / USE: computer or buffer memory; commercial or military application / D11
Norton Associates, Inc. -- see H1
The Whitnon Mfg. Co., Route 6 and New Britain Ave., Farmington, Conn. / computer magnetic drums / - / - / $750 to $12,000 / D11

D12. DRUMS, MAGNETIC

BRYANT COMPUTER PRODUCTS, DIV. OF EX-CELL-O CORP., 850 Ladd Rd., Walled Lake, Mich. / MAGNETIC STORAGE DRUMS DESCR: standard 3", 5", 7½", 10", 12", and 18½" diameters; capacities to 25,000,000 bits; speeds to 60,000 RPM; access time low as 0.25 ms. Also special designs and complete systems. Fixed or aerodynamic heads. High pulse packing density / USE: commercial, industrial, military applications; general storage or buffer / from $975 / D12

Cognitronics Corp., 549 Pleasantville Rd., Briarcliff Manor, N.Y. / magnetic storage drums / DESCR: high speed, compact memory units with speed operation up to 25,000 rpm. Matching read/write circuitry and associated digital electronics available / USE: digital storage, buffer applications, data reduction / $1500 to $10,000 / D12
Consolidated Controls Corp.
Digital Development Corp.
Ferranti Electric, Inc.
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ontario, Can. / magnetic memory drum Type 217A / DESCR: MIL-E-5400C; three inc diameter, 11,250 RPM. Storage capacity 60,000 bits on 44 tracks / USE: buffer or program store; airborne computers / - / D12
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., *a / magnetic memory drum Type 347 / DESCR: 18.5 inch diameter. Up to 1800 RPM. Storage capacity 5,000,000 bits on 576 tracks / USE: computer memory store; communications switching store / - / D12
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., *a / magnetic memory drum Type 364 / DESCR: twelve inch diameter. 1800 or 3600 RPM. Storage capacity approximately 1,200,000 bits on 224 tracks. Air bearing/air servo head mounting columns / USE: computer memory / - / D12
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., *a / magnetic memory drum Type 371 Series / DESCR: 10 inch diameter drums in 4, 8 and 12 inch lengths with 100, 200 and 300 tracks respectively; storage capacities 500,000 to 1,500,000 bits; 10-year grease packed ABEC 7 ball bearings; 1800 or 3600 RPM / USE: computer memory / - / D12
FMA, Inc.
HRB-Singer, Inc., a subsidiary of The Singer Mfg. Co. -- see C24
LFE Electronics, Computer Products Division, A division of Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / magnetic drums / DESCR: HD file drum, capacity is 15 million bits; custom design drums also available / USE: computer memory, central data file / - / D12
Magne-Head Div., General Instrument Corp.

MINNEAPOLIS-HONEYWELL REGULATOR CO., AERONAUTICAL DIV., FLORIDA FACILITY, 13350 U.S. Highway 19, St. Petersburg, Fla. / COMPUTER MEMORY DRUMS / DESCR: 2½", 5", and 8" high packing density, internal stator, rugged / USE: as memory device in aircraft missiles, shipboard, and land-based message distribution systems / - / D12

Norton Associates, Inc. -- see H1

REDMOND-FAIRCHILD INC., 610 So. Arroyo Pkwy., Pasadena, Calif. / MAGNETIC DRUMS / DESCR: commercial and mil-spec; magnetic heads, read/write amplifiers and associated electronics; special motors, engraved and recorded clocks / USE: computer memories / - / D12

Remington Rand Univac -- see C24
Sperry Gyroscope Co., Div. of Sperry Rand Corp.
Univac Military Operations of Sperry Rand Corp.
The Whitnon Mfg. Co. -- see D11

EO. ECONOMIC RESEARCH

Associated Sales Analysts, Inc. -- see C27
Automation Engineers
Battelle Memorial Institute -- see R12A
Bonner & Moore Associates, Inc., 6910 Fannin, Houston 25, Tex. / economic research / DESCR: consulting services in economic analyses for industrial corporations -- manufacturing planning, marketing evaluation and strategy, investment analysis / - / - / EO
C-E-I-R, Inc.
Hollander Associates, P. O. Box 2276, Fullerton, Calif. / economic research / DESCR: technically-directed consulting and studies of computer-related products and industries, domestic and foreign. Evaluations, market identifications, and competitive comparisons by a unique analytical procedure / service / - / EO
KCS Ltd.
Midwest Research Institute
The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / economic research / DESCR: analytical services to aid in the formulation and design of the solution to data processing problems / USE: economic forecasting; survey analysis / - / EO
Statistical Tabulating Corp. -- see C30

E1. EDUCATION

The American University - EDPL
ANelex Corp., 150 Causeway St., Boston 14, Mass. / ANelex Printer maintenance and servicing training program / DESCR: an intensive, comprehensive 3 week course, limited to 10 students per class, on the theory of operation, care, maintenance and servicing the Series 4-1000 High Speed Printer / USE: maintaining or field service repair of ANelex high speed printer in data processing installations / $200 / E1
Business Electronics Inc., 420 Market St., San Francisco 11, Calif. / home study courses in computer programming / DESCR: courses include programming technology and systems design in terms of business applications. General programming techniques and specific training for IBM 1401 Data Processing System / USE: training, education / $135 to $175 / E1
Control Technology, Inc.
Daniel, Mann, Johnson & Mendenhall
Duke University, Computing Laboratory
Elliott Bros. (London) Ltd., Elliott Computing Div.
Executive Computer Utilization, 161 W.

Wisconsin Ave., Suite 5130, Milwaukee 3, Wis. / IBM 1401 School / DESCR: ten week night program for persons with no previous EDP training / USE: instruction / $185 / E1

E-Z Sort Systems, Ltd.

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

Harman-Kardon, Inc., Data Systems Div. -- see B6

Management Science Training Institute

Mesa Scientific Corp., 12838 Weber Way, Hawthorne, Calif. / education / DESCR: advanced engineering courses in computer technology; logic design, semiconductor circuits, magnetic drum, tape, and core techniques, dynamic and static circuit analysis, and computer programming / - / - / E1

Mountain Data Systems, Inc. -- see C27

National Cybernetic Corp.

H. M. Semarne

The Society for Automation in Business Education -- see P15

E2. EMBEDDED ASSEMBLIES AND COMPONENTS

Radio Corp. of America, Semiconductor and Materials Div.

Raytheon Co., Semiconductor Div.

F. W. Sickles Div., General Instrument Corp.

Texas Instruments Inc. -- see C26

(Continued on next page)

F1. FACSIMILE EQUIPMENT

General Dynamics/Electronics
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2
Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / 734 Magnetic Tape Facsimile Recorder/Reproducer / DESCR: stores facsimile signals indefinitely, high and low speed scanning / USE: information storage and retrieval, line buffering, high speed data transmission / $8000 to $10,000 / F1
Midwestern Instruments, Inc. -- see D2, I3

F1A. FANS AND BLOWERS

Rotron Manufacturing Co., Inc., Hasbrouck Lane, Woodstock, N. Y. / fans, blowers, flowmeters, airflow switches / DESCR: airmoving devices, i.e. fans, blowers and related proprietary items used primarily in the cooling of electronic equipments on land, shipboard and airborne (airplane and missile) applications. Rotron's products are built to either government or commercial standards and are principally the result of its own advanced engineering designs and manufacture / - / $8 to $300 / F1A

F2. FASTENERS AND FASTENING DEVICES

Alden Products Co.

F3. FIRE CONTROL EQUIPMENT

American Bosch Arma Corp.
Gordon Enterprises
Imm Industries
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / fire control systems / DESCR: analog and digital fire control systems for antisubmarine weapons / USE: Librascope-designed systems on 80% of Navy surface ASW vessels / - / F3
Litton Systems, Inc., Guidance & Control Systems Division -- see C24, C24A
Maxson Electronics Corp.
Philco Corp., a subsidiary of Ford Motor Co., Computer Div.
Sperry Farragut Co., Div. of Sperry Rand Corp.

F4. FIRE DETECTING & EXTINGUISHING EQUIPMENT

Fenwal, Inc.
Kidde Ultrasonic & Detection Alarms Div., Walter Kidde & Co., Inc.
Walter Kidde & Co., Inc., Industrial & Marine Division

F5. FLOORS

F6. FUSES

Littelfuse, Inc.

G1. GENERATORS, FUNCTION

Beckman Instruments, Inc., Berkeley Div.
California Instruments Corp.
CBS Laboratories, a div. of Columbia Broadcasting System, Inc.
Thomas A. Edison Industries, Instrument Div. of McGraw-Edison Co.
Electroplex, Inc.
Elgenco, Inc., 1231 Colorado Ave., Santa Monica, Calif. / electronic noise generator / DESCR: electronic device providing as output a random voltage used as an input to an analog computer. Analog computer component referred to as an input device. / USE: input device or function generator for an analog computer / $995 to $1995 / G1
General Computers, Inc., 9000 W. Pico Blvd., Los Angeles 35, Calif. / Model 100 Diode Function Generator / DESCR: general purpose diode function generator featuring punched card programming. Functions can be changed in seconds and retained for years to .02% accuracy / USE: general purpose function generation for computation and simulation / $2750 / G1
General Data Corp. -- see C39
GPS Instrument Co., Inc.
Hewlett-Packard Co.
Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility
Radiation Incorporated
Strand Engineering Co.
Vernistat Division of the Perkin-Elmer Corp.
The Walkirt Co.

G2. GENERATORS, FUNCTION, ELECTRONIC

Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / diode function generator / DESCR: a four-quadrant unit employing diode cards with no permanently-committed amplifiers / USE: switches set breakpoint and slope polarity for each segment. Calibrated potentiometers set desired breakpoint and slope / on request / G2
Dian Laboratories, Inc., *a / photoelectric function generator / DESCR: photographed mask f(x) is inserted between cathode-ray tube and photomultiplier tube. Circuitry constrains c.r. spot to trace the desired function / USE: generation of arbitrary functions / on request / G2
Elgenco, Inc. -- see G1
Hewlett-Packard Co.
Intercontinental Dynamics Corp.
Paradynamics Inc., Wave Particle Div., 10 Stepar Place, Huntington Station, L.I., N.Y. / microwave swept signal sources / DESCR: compact lightweight signal source combining reliable performance, versatility, ease of adjustment, and operator convenience; frequency range 400 mc to 75.0 Gc PM BWO's, high minimum power output / USE: signal sources in laboratory, production and field measurements / $2500 to $15,000 / G2
Radiation Incorporated
Reeves Instrument Corp.

G3. GENERATORS, FUNCTION, MECHANICAL

The Bendix Corp., Eclipse-Pioneer Div.
Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / induction generator / DESCR: complete line of miniature two phase generators. With one phase excited it produces an output voltage proportional to the speed of the shaft / USE: system stabilizer or damping generator in a closed loop servo / $40 to $85 / G3

G4. GEOPHYSICAL APPARATUS

Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.
Fairchild Controls Corp.
Gordon Enterprises
Litton Systems, Inc., Guidance and Control Systems Div.
Moran Instrument Corp.
Nortronics, a div. of Northrop Corp., Electronic Systems & Equipment Dept.
Nortronics, a div. of Northrop Corp., Precision Products Dept.
Sperry Gyroscope Co., Div. of Sperry Rand Corp.

H1. HEADS, MAGNETIC

The Electro Nuclear Systems Corp.
LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / magnetic heads / DESCR: standard and custom heads for digital and analog recording / USE: drums and discs / - / H1
Edwin A. Lipps Engineering
Magne-Head Div., General Instrument Corp.
Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / magnetic heads / DESCR: 7, 8, and 16 channel digital heads, high resolution analog and audio heads, precision gap alignment, shielded construction / USE: magnetic tape recording and playback / $100 to $2000 / H1
Norton Associates, Inc., 240 Old Country Rd., Hicksville, N.Y. / magnetic heads / DESCR: standard and special magnetic record, playback, and erase heads in single and multi-track arrangements / USE: for magnetic tape, film, drum, and magnetic ink character recognition / - / H1
Potter Instrument Co., Inc.
Redmond-Fairchild Inc., -- see D12

H2. HEADS, MAGNETIC, READING

Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.
LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc. -- see H1
Edwin A. Lipps Engineering
Midwestern Instruments, Inc. -- see H1
Norton Associates, Inc. see H1
Potter Instrument Co., Inc.

H3. HEADS, MAGNETIC, RECORDING

Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.
Ferroxcube Corp. of America
Houston Instrument Corp. -- see D2
LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc. -- see H1
Edwin A. Lipps Engineering
Lockheed Electronics Co., Avionics and Industrial Products Div.
Midwestern Instruments, Inc. -- see H1
Norton Associates, Inc. -- see H1
Potter Instrument Co., Inc.

I1. INDICATORS (COMPUTER TYPES)

Computer Logic Corp., 11800 W. Olympic Blvd., Los Angeles 64, Calif. / decimal indicators DI-20 series / DESCR: incandescent type numeric indicators with 75 degree viewing cone, high light output, programmable digit color. Various sizes / USE: as system and instrument readouts for various decimal codes / $22.50 to $50 / I1
Daystrom, Inc., Weston Instruments Div.
Dialight Corp. -- see L1
Engineered Electronics Co., 1441 E. Chestnut Ave., Santa Ana, Calif. / R-Series Minisig® Indicators / DESCR: sensitive indicator devices designed to operate from low-level signals; built-in amplifier minimizes loading of driving circuit / USE: systems designed for small signal excursions / $5.60 to $32.50 each depending on quantity and type / I1
The A. W. Haydon Co.
Hewlett-Packard Co.
Non-Linear Systems, Inc.
Pendar, Inc.
Raytheon Co., Industrial Components Div.

I2. INFORMATION RETRIEVAL DEVICES

Automation Engineers, 344 W. State St., Trenton 8, N.J. / random access file system / DESCR: random retrieval of file information, uses paper cards, punched cards, punched tape or magnetic cards; custom designed to specifications / USE: separate unit or integrated into a data processing system / cost depends upon custom design specifications / I2
Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio / 750 Information System / DESCR: solid-state system gathers analog data; scans, alarms, and logs digitally / USE: to provide simplified information display to plant operators / - / I2
Benson-Lehner Corp.
Consolidated Electrodynamics Corp.
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ontario, Can. / rapid access look-up system (RALUS) / DESCR: locates coded microfilmed text pages automatically from keyboard input; typical look-up time for a loop of 500 microfilm frames is 1½ seconds / USE: consulting of catalogues; telephone order handling / - / I2
FMA, Inc., 142 Nevada St., El Segundo, Calif. / FileSearch / DESCR: electronically retrieves documents stored on coded 35mm film. Consists of three units of office-sized equipment / USE: rapid retrieval of documented information / $114,500 to $129,500 / I2
General Kinetics Inc.
Invac Corp.
Jonker Business Machines, Inc., 26 N. Summit Ave., Gaithersburg, Md. / Termatrex and Minimatrex / DESCR: utilize principle of "concept coordination". Termatrex devices drill and readout full-size 10,000 item, superimposable cards; Minimatrex film devices expand system item capacity / USE: information retrieval and correlation / $500 to $12,000 / I2
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc., 905 Commonwealth Ave., Boston 15, Mass. / RD900, random access storage and display system / DESCR: provides for storage of huge amounts of data coded in machine language; average access time, approximately 0.2 seconds. Selected reports can be displayed on television type tube or printed out / USE: for indexing, library systems, situational and tabular displays / $100,000 and up / I2
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc., *a / SM3 Display / DESCR: system accepts 5, 6, 7, or 8 bit characters from computers, keyboards or communications lines; displays message on television type tube; messages can be stored and updated within system, called up, and displayed instantly as required / USE: to display transaction data; stocks, reservations, inventory status, schedules, equipment status / $15,000 to $60,000 / I2
Midwestern Instruments, Inc. -- see F1
Radio Corp. of America, Electronic Data Processing
The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / information retrieval devices / DESCR: Contractual data processing. Word generation. Abstracting. Key word in context system (KWIC). Custom programming and processing / - / - / I2
Strand Engineering Co. -- see V1

I2A. INFORMATION ENGINEERING

Auerbach Corporation -- see C30
Battelle Memorial Institute -- see R12A
Bonner & Moore Associates, Inc., 6910 Fannin St., Houston 25, Tex. / information engineering services / DESCR: consulting in analyzing and developing improved means for handling the flow of information in industrial concerns; several proprietary computer programs developed for this task / I2A
International Business Machines Corp., Federal Systems Division
Jonker Business Machines, Inc., Information Services Div., 26 N. Summit Ave., Gaithersburg, Md. / information services / DESCR: consulting services in information system design, installation, and operation. Contract indexing, abstracting, and publication of abstract bulletins and indexes available. Training provided in above areas / USE: by proposed or operating information systems / $200 per day plus travel and expenses / I2A
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / Librascope Operations Control System / DESCR: computer-based, electronic, data-gathering and reporting system for real-time management control / USE: control of complex industrial, military, or government operations / - / I2A
National Computer Analysts, Inc.
H. M. Semarne
Telecomputing Services, Inc. -- see C27

I3. INPUT/OUTPUT DEVICES

Autonetics Industrial Products -- see C39, T9
Benson-Lehner Corp.
Budd Electronics
Burroughs Corp.
Computron Inc. -- see T3
Consolidated Electrodynamics Corp.
Datamec Corp.
Datex Corp.
Daystrom, Inc., Weston Instruments Div.
Dennison Mfg. Co., Machines Systems Div. -- see P16
Electro Instruments, Inc. -- see A3
N. V. Electrologica
The Electro Nuclear Systems Corp.
Elgenco, Inc. -- see G1
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ontario, Can. / data transmitter-receiver / DESCR: up to 1300 bits/second without adjustment. Fully tested on telephone circuits to 5600 miles in length. Higher speed operation up to 2400 bits/second on shorter circuits / USE: for transmission of high-speed data over telephone lines / - / I3

The Foxboro Co.
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / input-output devices / DESCR: solenoid or keyboard operated machines which provide data for, or accept data from, other machines. Functions include accumulating, printing, transmitting / USE: general data processing / - / I3
Friden, Inc., *a / solenoid add-punch, Model ACPTS / DESCR: accepts data from other machines, accumulates, prints, and punches a paper tape for subsequent processing / USE: general data processing / - / I3
General Data Corp. -- see C39
General Dynamics/Electronics
HRB-Singer, Inc., a subsidiary of the Singer Mfg. Co. -- see C24A, R6
Information Products Corp., 156 Sixth St., Cambridge, Mass. / random access file interrogator / DESCR: high-speed keyboard and CRT display device to interconnect random access file to remote user. User can add data to file; update, change, delete stored data; request data from file / USE: in banking, reservations, inventory control, etc. / $2000 to $10,000 / I3
Invac Corporation, 26 Fox Rd., Waltham 54, Mass. / peripheral input/output equipment and punched paper tape / DESCR: alpha-numeric and numeric photoelectric keyboards; 0-20 cps paper tape punches, photoelectric readers; 0-250 cps punched paper tape photoelectric readers; on line and off line input/output equipment / USE: data processing, input/output equipment / - / I3
Jonker Business Machines, Inc. -- see I2
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2
Litton Systems, Inc., Guidance and Control Systems Div.
Mace Corp. -- see A4
Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / input/output equipment / DESCR: digital tape systems, facsimile systems, analog recorders, oscillograph recorders / USE: computer systems, off-line processing, information storage and retrieval, data transmission, graphic plotting / $1500 to $17,000 / I3
Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility
The National Cash Register Co.
National Data Processing Co., dept. of UNIVAC Div. of Sperry Rand Corp.
Omnitronics, Inc., Subsidiary of Borg-Warner Corp., 511 N. Broad St., Philadelphia 23, Pa. / electrostatic tape recorder / DESCR: high speed recording of coded and alphanumeric data on paper tape through use of completely dry electrostatic process. Speed range to 600 char./sec. / USE: output from digital computer, communications / $7000 to $9000 / I3
Omnitronics, Inc., Subsidiary of Borg-Warner Corp. -- see R7
Radiation Incorporated
Raytheon Co., Communications and Data Processing Operation, 1415 Boston-Providence Turnpike, Norwood, Mass. / multiplexer, ultra-high speed / DESCR: ultra-high speed commutator-multiplexer with switching speeds up to one million per second. 24 channels per unit, stackable up to 24 units / USE: to sequentially route analog signals to A/D converters / $5000 to $9000 / I3
Remington Rand Univac -- see C24
Science Research Associates, Inc., Data Services Div. -- see C28
Scientific Data Systems, Inc. -- see C12, C24
Societe D'Electronique Et D'Automatisme
Soroban Engineering, Inc.
Strand Engineering Co. -- see V1
Systematics, a Div. of General Instrument Corp. -- see C42
The Teleregister Corp.
Underwood Corp.
Victor Business Machines Division, Victor Comptometer Corp.
Wang Laboratories Inc.
Westinghouse Electric Corp., Air Arm Div.

I4. INTEGRATORS

Dresser Electronics, SIE Div., a division of Dresser Industries, Inc.

I5. INTEGRATORS, ELECTRONIC

Andersen Laboratories Inc.
The Bendix Corp., Eclipse-Pioneer Div.
Mace Corp. -- see A4
Reeves Instrument Corp.

I6. INTEGRATORS, MECHANICAL

The Bendix Corp., Eclipse-Pioneer Div.
GPE Controls, Inc., 240 E. Ontario St., Chicago 11, Ill. / electric integrators / DESCR: multiple current and voltage input models; ½% accuracy 6 digit readout, impulse transmitter for remote counter operation available / USE: to integrate quantities represented by voltages or currents / $225 to $295 / I6
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / Ball-and-Disc integrators / DESCR: integrators with up to 10,000-hour service life expectancy. Four models available / USE: as computing element, control device, etc. / $75 to $150 / I6

I7. INVENTORY SYSTEMS

Benson-Lehner Corp.
Data Computing Corp. -- see C27
HRB-Singer, Inc., a subsidiary of The Singer Mfg. Co. -- see C24A
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2
Midwest Research Institute -- see O2
National Cybernetic Corp.
National Data Processing Co., dept. of UNIVAC Div. of Sperry Rand Corp.
The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / inventory systems / DESCR: contractual data processing for business, science, and industry / - / - / I7
Statistical Tabulating Corp. -- see C30
Telecomputing Services, Inc. -- see C27

I8. INVESTMENT ASSISTANCE

LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2
Statistical Tabulating Corp. -- see C30

J1. JACKS

Aerovox Corp.
Alden Products Co.
Superex Electronics Corp.

K1. KEYBOARDS

Burroughs Corp.
Information Products Corp. -- see I3
LFE Electronics, Systems Division, A Division of Laboratory for Electronics, Inc. -- see I2
Soroban Engineering, Inc.

L1. LIGHTS, INDICATOR

Alden Products 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 (3/8" mounting) indicator lights, tradenamed "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.; telephone light strips and indicator lights; transistorized indicator lights; illuminated push-button switches / - / - / L1
Monroe Industries, Inc. -- see V1

M1. MAGNETS

The Arnold Engineering Co., Railroad Ave. & West St., Marengo, Ill. / magnetic materials / DESCR: permanent magnets -- alnico, ceramic; cores -- silectron transformer, high permeability tape wound deltamax, permalloy, supermalloy, supermendur, bobbin, molybdenum permalloy, carbonyl iron; barium titanate transducers; special magnetic materials / M1
Ferroxcube Corp. of America
Indiana General Corp., Magnet Div., 405 Elm St., Valparaiso, Ind. / permanent magnets / DESCR: complete line of permanent magnets / USE: for data

processing and computer controls, etc. / varies, depends upon material, quantity, and shape / M1

M2. MEMORY SYSTEMS

Autonetics Industrial Products, 3400 E. 70th St., Long Beach, Calif. / Recomp Digital Magnetic Tape Memory System / DESCR: expands Recomp Computer from 4096 words to over 1,000,000 words. Features variable length blocks; bi-directional stop start, and erasure control. Built-in parity checks / $20,000 selling price; $525 per month lease price / M2

The Bendix Corp., Eclipse-Pioneer Div.

Benson-Lehner Corp.

BRYANT COMPUTER PRODUCTS, DIV. OF EXCELL-O CORP., 850 Ladd Rd., Walled Lake, Mich. / MEMORY SYSTEMS / DESCR: modular mechanical and electronic components for wide range of systems. Standard frequencies of DC to 500 kc; higher as required. Designed for complete magnetic drum or disc file systems, including read, write, selection, and interface circuitry / USE: commercial, industrial, military drum and disc file systems / - / M2

Cognitronics Corp. -- see D12

Computer Control Co., Inc.

Consolidated Controls Corp., 16 Durant Ave., Bethel, Conn. / memory drum / DESCR: low speed, moved by stepping motor or geared to process. Responds to polarity. No brushes or contacts / USE: variable delay memory, such as on sorting conveyors, recording automatic test equipment results, machine tool control / $1000 to $5000 / M2

Cybetronics, Inc. -- see T11.1

Delco Radio Div., General Motors Corp.

DI/AN Controls, Inc., 944 Dorchester Ave., Boston 25, Mass. / buffers / DESCR: tape to printer, processor to printer. DI/AN's RBP Series Buffer & Control Units, flexible, compact, solid-state, magnetic-storage circuitry with proven reliability / M2

Digital Development Corp.

N. V. Electrologica

Fabri-Tek Inc., Amery, Wisc. / magnetic core memory systems and memory planes / DESCR: complete design and manufacture of either memory planes or memory systems using ferrite cores. Memory stacks from 100 cores to millions of cores; systems from 5000 to 200,000 bits / USE: central storage for digital computers, buffer storage for other applications / - / M2

Ferranti Electric, Inc.

Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept. -- see D12

General Dynamics/Astronautics, a Div. of General Dynamics Corp.

General Electric Co., Specialty Devices Operation

HRB-Singer, Inc., a subsidiary of The Singer Mfg. Co. -- see C24, C24A

Indiana General Corp., Electronics Div.

LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / memory systems / DESCR: amplifiers, logic and selection circuitry, read/write/erase heads, magnetic discs and drums, registers -- complete system capability / USE: computers and data systems, digital and analog / - / M2

Edwin A. Lipps Engineering

Lockheed Electronics Co., Avionics and Industrial Products Div.

Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility

Radio Corp. of America, Semiconductor and Materials Div.

Rese Engineering, Inc., A & Courtland Sts., Philadelphia 20, Pa. / magnetic core memory systems / DESCR: magnetic core memories and buffers, speeds to 3.5 μ sec cycle time. Have military and commercial systems, including "Ministore II", new low cost random access memory system / - / - / M2

Servomechanisms/Inc. -- see T11.2

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

Sylvania Electronic Systems, a Div. of Sylvania Electric Products Inc.

Technitrol, Inc.

Texas Instruments Inc. -- see C26

Univac Military Operations of Sperry Rand Corp.

M2A. MOTORS

The Bendix Corp., Eclipse-Pioneer Div.

Clifton Precision Products Co., Inc.

Thomas A. Edison Industries, Instrument Div. of McGraw-Edison Co.

GAP Instrument Corp.

The A. W. Haydon Co.

IMC Magnetics Corp., Western Div. -- see C44

Imm Industries

Redmond-Fairchild Inc. -- see D12

Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / induction and hysteresis motors / DESCR: complete line of miniature precision servo motors designed to operate from an alternating source. Power outputs to 1/100 horsepower. Frame sizes from 5 to 25 / USE: servo systems / $35 to $70 / M2A

Servomechanisms/Inc.

M3. MULTIPLIERS

Daystrom, Inc., Weston Instruments Div.

GPS Instrument Co., Inc.

Moren Instrument Corp.

M4. MULTIPLIERS, DIODE

Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / diode multiplier / DESCR: product formed by quarter-square principle with diode-shaping cards and high-precision

d-c amplifiers / USE: multiplier is precalibrated with inputs and outputs available on patchbay / on request / M4
Raytheon Co., Semiconductor Div.
Reeves Instrument Corp.
Texas Instruments Inc., Apparatus Div., P. O. Box 6015, Dallas, Tex. / multipliers / DESCR: varactor diode solid-state frequency multipliers of proven design capable of furnishing outputs through K band / - / - / M4

M5. MULTIPLIERS, ELECTRONIC

Reeves Instrument Corp.

M6. MULTIPLIERS, FREQUENCY

Texas Instruments Inc., Apparatus Div., P. O. Box 6015, Dallas, Tex. / multipliers / highly reliable solid-state frequency multipliers of proven design capable of furnishing outputs through K band / - / - / M6

M7. MULTIPLIERS, SERVO

Dian Laboratories, Inc. *a / servo multiplier / DESCR: product of any variable with any of four others obtained on each servo. .05% 10 turn potentiometers. Readout dial indicates polarity and voltage to .02 volts / USE: all inputs and outputs available on patchbay / on request / M7
Feedback Controls, Inc.
Reeves Instrument Corp.

01. OFFICE MACHINES

Automation Engineers, 344 W. State St., Trenton 8, N.J. / Autonomic intercoupler / DESCR: intercoupling device to program and transmit direct data between different types of office machines; for example, a multiplying typewriter and an accounting machine / USE: direct cable connection between machines for simultaneous operation / $2500 to $4000 / 01
Burroughs Corp.
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / office equipment / DESCR: complete line of adding, calculating, data processing machines and related equipment / USE: general office use / - / 01
National Cybernetic Corp.
Underwood Corp. -- see D1

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

Aries Corporation -- see C30
Associated Sales Analysts, Inc. -- see C27
Battelle Memorial Institute -- see R12A
Bonner & Moore Associates, Inc.
C-E-I-R, Inc.
Compumatix, Inc. -- see C30
Computer Associates, Inc.
Computer Usage Company, Inc. -- see C28
Data Processing Corp. -- see C27
Dynatech Corp.
Executive Computer Utilization
H. S. Gellman & Co. Ltd.
International Business Machines Corp., Federal Systems Division
KCS, Ltd.
Laboratory for Electronics Inc., Monterey Laboratory -- see P12A
Mesa Scientific Corp., 12838 Weber Way, Hawthorne, Calif. / operations research / DESCR: operations analysis, linear programming, mathematical modeling, computer applications studies for industry and government related to intelligence systems, command control systems, data acquisition and reduction / - / - / 02
Midwest Research Institute, 425 Volker Blvd., Kansas City 10, Mo. / operations research / DESCR: research in inventory and production control, forecasting, and control systems / 02
National Cybernetic Corp. -- see C30
National Scientific Laboratories, Inc.
James Addison Potter
H. M. Semarne

THE SERVICE BUREAU CORP., A SUBSIDIARY OF IBM, 425 Park Ave., New York 22, N.Y. / OPERATIONS RESEARCH / DESCR: computing and analytical services in: linear programming; transportation problem; statistical analysis; PERT (Program Evaluation and Review Technique); critical path scheduling; economic analysis; scientific and engineering analysis; statistics; market research; simulation studies of consumer behavioral patterns; data reduction; design of questionnaires; forecasting / 02

Space Technology Laboratories, Inc. -- see C27
Statistical Tabulating Corp. -- see C30
Systems Research Group, Inc.
Telecomputing Services, Inc. -- see C27

P1. PANELS

Cadre Industries Corp.
Monroe Industries, Inc. -- see V1

P2. PANELS, JACK

P3. PANELS, RELAY RACK

P4. PAPER TAPE

Consolidated Electrodynamics Corp.
Digital Service Labs
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / paper tape / DESCR: used with Friden tape punching-reading machines (such as Friden Flexowriter, Friden Computyper) or allied equipment / USE: general data processing, numerical control, etc. / - / P4
Invac Corp. -- see I3
Mountain Data Systems, Inc. -- see C27
Underwood Corp.

P5. PATCH CORDS

Alden Products Co.
AMP, Inc.

P6. PLOTTERS

Autonetics Industrial Products -- see C42
Benson-Lehner Corp.
Electro Instruments, Inc. -- see A3
Hathaway Instruments, Inc.
The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / plotters / DESCR: contractual data processing. Dataplotter available on an hourly basis / - / - / P6
Westgate Laboratory, Inc. -- see B1

P6A. PLUGBOARDS

Cybetronics, Inc. -- see T11.1
HRB-Singer, Inc., a subsidiary of The Singer Mfg. Co., 396 Fifth Ave., New York 18, N.Y. / auxiliary plugboard wiring devices / DESCR: high speed latch-type 4-pole relays; electronic selectors; high rated diodes inserted into plug wires; all attachable to IBM plugboards / USE: to expand selector capacity and prevent back circuits in punched card equipment through plugboard wiring / $2.50 to $35 / P6A
Systematics, a Div. of General Instrument Corp. -- see C42

P7. POTENTIOMETERS (COMPUTER TYPES)

Analogue Controls, Inc., 200 Frank Rd., Hicksville, L.I., N.Y. / precision potentiometers / DESCR: precision potentiometers to .002% linearity, linear and functional; single & multiple turn; single & multi-gang; ½" diam. to 15" diam. / USE: aircraft, missiles, space vehicles, computers, control systems / $20 to $2000 / P7
Beckman Instruments, Inc.
Bourns, Inc., Trimpot Division, 1200 Columbia Ave., Riverside, Calif. / Trimpot potentiometers and relays / DESCR: adjustment potentiometers, rectangular and square wirewound types; rotary potentiometers; precision potentiometers; subminiature relays / USE: to match, balance, and adjust circuitry in countless electronic applications / $1.50 to $25 / P7
CENTRALAB (The Electronics Div. of Globe-Union Inc.), 900 E. Keefe Ave., Milwaukee 1, Wis. / electronic components / DESCR: potentiometers / USE: as basic components to circuits / varies / P7

Dale Electronics, Inc., P. O. Box 488, Columbus, Nebr. / potentiometers / DESCR: trimmer and precision / - / - / P7
DeJur-Amsco Corp., Electronics Div.
Electro-Mec Instrument Corp., 47-51 33rd St., Long Island City 1, N.Y. / potentiometers / DESCR: variable, wirewound, precision, rotary, linear and non-linear / - / prices start at $40 list each / P7
Fairchild Controls Corp., 225 Park Ave., Hicksville, N.Y. / potentiometers / DESCR: single-turn, wirewound, high precision potentiometers; designed for low noise, high resolution, and functional accuracy over a wide temperature range; standard and high-temperature versions / USE: conservatively rated for long life in excess of 500 hours' exposure to hot spot temperatures for continuous operation under ambient conditions ranging from -55° to -150° / custom depending on quantity / P7
Giannini Controls Corp.
International Resistance Co.
Markite Corp.
The Perkin-Elmer Corp.
Vernistat Division of the Perkin-Elmer Corp.

P8. POWER SUPPLIES, REGULATED

AMP, Inc.
Amplifier Corp. of America, 398 Broadway, New York 13, N.Y. / power supplies / DESCR: regulated power supplies, including transistorized types, to special requirements. Also silicon controlled-rectifier (SCR) types / P8
AR&DA Div. of All American Engineering Co.
Condenser Products Co.
Consolidated Avionics Corp.
Consolidated Electrodynamics Corp.
Delco Radio Div., General Motors Corp., 700 E. Firmin St., Kokomo, Ind. / power supplies regulated / DESCR: standard or special purpose static power supplies, ground or airborne equipment / USE: computer supply, gyro supply, system supply / low to middle depending on requirements / P8
Electroplex, Inc.
Engineered Electronics Co.
Gulton Industries, Inc.
Hathaway Instruments Inc.
Hewlett-Packard Co.
Kepco, Inc., 131-38 Sanford Ave., Flushing 52, N.Y. / regulated power supplies, dc / DESCR; constant voltage source devices; vacuum-tube, magnetic, semiconductor, and hybrid regulator designs / - / $99 to $2250 / P8
Walter Kidde & Co., Inc., Kidde Electronics Laboratories
Maxson Electronics Corp.
Moran Instrument Corp.
Pacific Magnetic Corp., Electronic Center, Romoland, Calif. / DC power supplies / DESCR: regulated and non-regulated units in capacities of 2KVA and less / USE: for industrial and aircraft and missile instrumentation such as Minuteman Ground Support Equipment / $50 to $4000 / P8
Paradynamics Inc., Control Electronics Div.
George A. Philbrick Researches, Inc.
Plastic Capacitors Inc.
Polyphase Instrument Co. -- see D3
Sangamo Electric Co. -- see A4
Scientific Data Systems, Inc. -- see C12
Texas Instruments Inc., Apparatus Div., P. O. Box 6015, Dallas, Tex. / power supplies / all-solid-state signal sources featuring high reliability, frequency accuracy, and stable operating, available with outputs through K band / - / - / P8
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif. / power supplies / DESCR: regulated modular transistorized / USE: power source / $140 to $20,000 / P8
Wright Engineering Co., Inc.

P9. PRINTERS

ANelex Corp. -- see P10
Beckman Instruments, Inc.
Burroughs Corp.
Clary Corp., 408 Junipero St., San Gabriel, Calif. / Clary Model 4001 Printer / DESCR: rugged, compact industrial printer with military-level reliability. Prints 10 lines per second, up to 21 columns wide, 12 characters per column / USE: high-speed line-printer output / $7500 to $9000 with electronics / P9
Creed & Co., Ltd. (assoc. of IT&T Corp.)
Datex Corp.
Epsco, Inc.
General Dynamics/Electronics
GPL Division - General Precision, Inc.
Moran Instrument Corp.
Radiation Incorporated, P. O. Box 37, Melbourne, Fla. / printers, medium and high speed / DESCR: strip and page printers employing electrosensitive principles capable of printing at speeds up to 1200 words per minute / USE: output reading device / $1000 to $8000 / P9
Technitrol, Inc.
Teletype Corp.

P10. PRINTERS, HIGH SPEED

American Bosch Arma Corp.
ANelex Corp., 150 Causeway St., Boston 14, Mass. / Series 4-1000 High Speed Printer / DESCR: designed for heavy duty installations which require high capability, up to 160 columns and a print rate of 1000 lpm / USE: built into data processing systems / - / P10
ANelex Corp., *a / Series 4-1000 Complete High Speed Printer System / DESCR: new complete printer system with electronics, buffers and logic packaged in modern console for large scale computer and EDP systems / USE: heavy duty instal-

lations which require high capability and print speed / - / P10
ANelex Corp., *a / Series 4-6624 and 6672 High Speed Printers / DESCR: 24 and 72 column printers with 66 character choice operating at a print rate of 600 lines per minute alpha-numeric or 1200 numeric. Designed for small computers or lister type operations / USE: banking, communications, checkout and missile and space programs / - / P10
ANelex Corp., *a / Series IV Print Station / DESCR: complete high speed printing system for off-line operation from large scale computers prepared high or low density magnetic tapes / USE: EDP applications at industrial, scientific, or military installations where volume document production is required / - / P10
ANelex Corp., *a / Model 300 Complete High Speed Printer System / DESCR: new complete low cost 120 column 300 lpm printer system containing all of the power electronics, buffers and logic / USE: banking, scientific and commercial installations / - / P10
Beckman Instruments, Inc.
Clary Corp. -- see P9
N. V. Electrologica
The English Electric Co., Ltd., English Electric House -- see D1
General Dynamics/Electronics, P. O. Box 2449, San Diego 12, Calif. / S-C 3070 Message Printer / DESCR: high speed message printer used in edp, and digital communication systems. A synchronously prints a character at a time upon receipt of signals from digital computer / USE: on-line, off-line with digital computer systems is compatible with most available data transmission terminals / $15,000 to $16,000 for basic unit / P10
Omnitronics, Inc., Subsidiary of Borg-Warner Corp. -- see I3
Philco Corp., a subsidiary of Ford Motor Co., Computer Div.
Potter Instrument Co., Inc.
Radiation Incorporated -- see P9
Radio Corp. of America, Electronic Data Processing
Rank Precision Industries Ltd., Electronics Dept., Sulgrave Rd., Hammersmith, London W. 6, England / Xeronic High Speed Computer Printer / DESCR: selects and prints from computer signals 2880 lines per minute of variable data and also basic forms. CRTs and xerography used / USE: on or off line / $200,000 to $300,000 / P10
Remington Rand Univac -- see C24
Societe D'Electronique Et D'Automatisme
Univac Military Operations of Sperry Rand Corp.

P11. PRINTERS, KEYBOARD

Clary Corp., 408 Junipero St., San Gabriel, Calif. / Clary Input Keyboard / DESCR: a data input unit, fits any system. Ten-key keyboard with up to 30 control keys and indicator lights. Can be rack or console mounted / USE: for direct entry of data / $175 to $199.50 / P11
Invac Corp. -- see I3

P12. PRINTERS, LINE-A-TIME

ANelex Corp. -- see P10
Clary Corp. -- see P9
Electro Instruments, Inc. -- see A3
The English Electric Co., Ltd., English Electric House -- see D1
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden PRCS Printer / DESCR: electro-mechanical digital printing device. Solenoid keyboard accepts 1200 digits per minute. Negative values print in red / USE: digital printing / - / P12

P12A. PROGRAMMING SERVICES (see also "Survey of Consulting Services")

Amber & Amber -- see C30
American Data Services, Inc.
Applied Data Research, Inc.
Aries Corporation -- see C30
Associated Sales Analysts, Inc. -- see C27
Auerbach Corporation -- see C30
Autonetics Industrial Products -- see C39
Bonner & Moore Associates, Inc., 6910 Fannin St., Houston 25, Tex. / programming services / DESCR: consulting in programming analysis and development; several proprietary packages in mathematical programming and data reduction / - / - / P12A
C-E-I-R, Inc.
Compumatix, Inc.
Computer Associates, Inc.
Computer Concepts, Inc.
Computer Operations, Inc.
Computer Services, Inc.
Computer Systems Consultants -- see C30
Computer Usage Company, Inc. -- see C28
Control Data Corporation
Control Technology, Inc.
Data Sciences, Inc.
Data-Service, Inc.
Datatrol Corp.
The Diebold Group, Inc.
Electric Boat Div., General Dynamics -- see C27
Electronic Processing Center Inc. -- see C27
Elliott Bros. (London) Ltd., Computing Services Div.
Executive Computer Utilization -- see C27
E-Z Sort Systems, Ltd.
General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / programming services / DESCR: programming; recommendation, design, and construction of automatic programming systems; mathematical studies; numerical analysis; compiler development / - / hourly and contract rates / P12A
Gulton Industries, Inc.
Informatics, Inc., P. O. Box 5569, Sherman Oaks, Calif. / systems and programming in information processing / DESCR: consulting, programming, systems design, and systems implementation in information processing / - / - / P12A
The ITT Data Processing Center -- see C27
LFE Electronics, A Division of Laboratory For Electronics, Inc., Monterey Laboratory, 305 Webster St., Monterey, Calif. / Services -- computer programming; operations research; systems analysis / DESCR: programming services and operations research; systems and scientific programming; mathematical studies; operations research and systems analysis studies / - / P12A
McDonnell Automation Center, Div. McDonnell Aircraft Corp., Box 516, St. Louis 66, Mo. / programming services / DESCR: provide package applications or develop programs for specific industries or applications / - / - / P12A
Mesa Scientific Corp., 12838 Weber Way, Hawthorne, Calif. / programming services / DESCR: develop programming systems; problem oriented compilers and programming languages. Program digital differential analyzers, real-time computers for navigation and control, automatic checkout and instrumentation systems / - / - / P12A
Mountain Associates
Mountain Data Systems, Inc. -- see C27
National Computer Analysts, Inc.
National Computer Analysts of New York, Inc.
National Cybernetic Corp. -- see C30
Pacific Tabulating & Statistical Ltd. -- see C27

THE SERVICE BUREAU CORP., A SUBSIDIARY OF IBM, 425 Park Ave., New York 22, N.Y. / PROGRAMMING SERVICES / DESCR: programming, systems analysis, data processing, and machine services using IBM 650, 1401, 704, 7070, 709, 7090, 1620, dataplotting, MICR reader-sorter, and unit record equipment. Fields of extensive programming experience include: chemical engineering; civil engineering; petroleum engineering and management; insurance, banking and brokerage; public utilities; etc. Preplanned programs include: PERT (Program Evaluation and Review Technique); piping flexibility analysis; survey data processing; automated inventory for dealerships; etc. / USE: for business and scientific problems / services on a contractual basis; equipment on an hourly basis / P12A

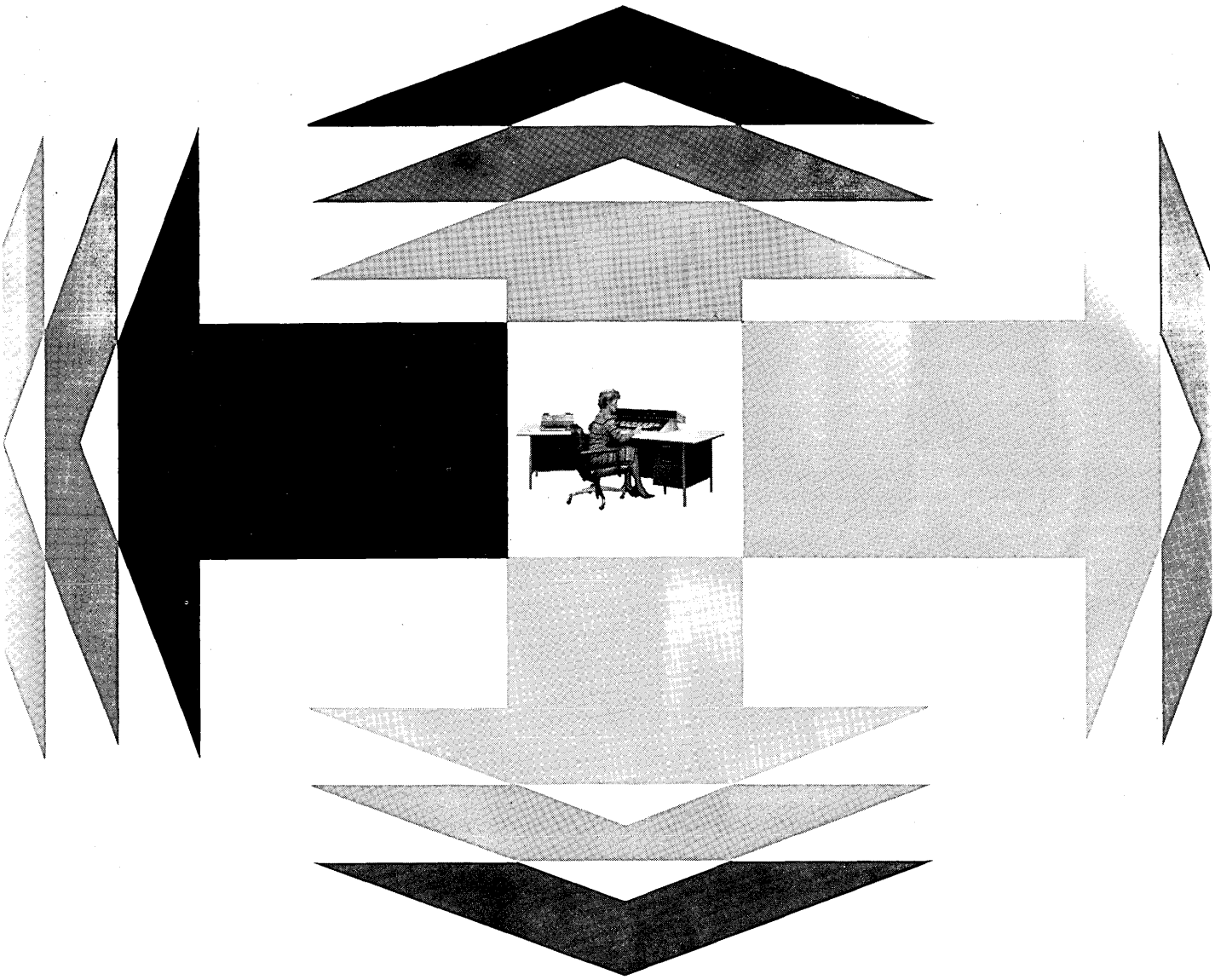
Statistical Tabulating Corp. -- see C30
Sylvania Electronic Systems
Systems Research Group, Inc.
Telecomputing Services, Inc. -- see C27
Univac Military Operations of Sperry Rand Corp.
U. S. Naval Weapons Laboratory, Computation and Analysis Lab.
Wolf Research & Development Corp.

P13. PUBLICATIONS

Amber & Amber -- see C30
American Research and Manufacturing Corp., 920 Halpine Ave., Rockville, Md. / engineering design and documentation service / DESCR: complete design, drafting, writing, artwork and graphic presentation services, instrumentation and control systems including computers / USE: as the assignment objectives dictate / prices are based on either hourly rates or job estimates / P13
Association of Data Processing Service Organizations
Auerbach Corporation, 1634 Arch St., Phila. 3, Pa. / Auerbach/BNA Standard EDP Reports / DESCR: depth analyses of EDP hardware, EDP software, state-of-the-art reports; selection procedures and system performance comparisons / USE: to provide complete, reliable objective information essential to the wisest selection of an EDP system or peripheral equipment / $675 per subscription for quantities 100 and over; $900 per subscription for quantities one to four / P13
Auerbach Corporation -- see C30
Cambridge Communications Corp.
Institute for Scientific Information, Inc.
The Institute of Management Sciences
Instrument Society of America
Reinhold Book Div., Reinhold Publishing Corp.
The Society for Automation in Business Education -- see P15
John Wiley and Sons, Inc., 440 Park Ave. So., New York 16, N.Y. / technical books / DESCR: HANDBOOK OF AUTOMATION, COMPUTATION AND CONTROL, Gabbe, Ramo and Wooldridge, editors. First comprehensive high-level handbook on all aspects of control. Practical design data for research, development and design. Three volumes: CONTROL FUNDAMENTALS -- $18.50; COMPUTERS AND DATA PROCESSING -- $18.50; SYSTEMS AND COMPONENTS -- $19.75. Write for information on other books / USE: reference / see above / P13

P15. PUBLICATIONS, MAGAZINES

ADP Newsletter, The Diebold Group, Inc., 430 Park Ave., New York 22, N.Y. / ADP Newsletter / DESCR: analyses and news in automatic data processing field / USE: by subscription, published on alternate Mondays / $37.50 per year / P15
Business Automation
Data Processing Digest, Inc.
The Diebold Group, Inc. -- see ADP Newsletter
The Society for Automation in Business Education, 1108 Johnson Ave., San Jose 29, Calif. / SABE DATA PROCESSOR / DESCR: provides a forum for interchange of fact and opinion / USE: education / membership dues $2 annually, which includes free subscription to the SABE DATA PROCESSOR / P15
Technical Information Company Ltd.,



new

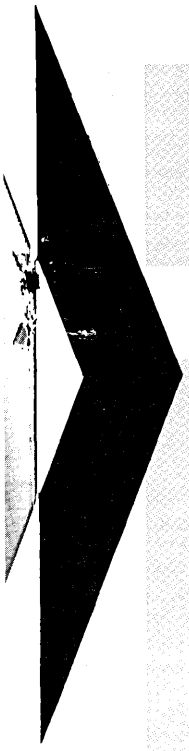
Philco 2000 Computer Systems Now Offer...

BALANCED FOUR-WAY PROCESSING

Philco 2000 systems feature balanced four-way processing for maximum speed and optimum hardware utilization. The Philco 2000 has always been characterized by its unique controlling of magnetic tape by way of unrestricted four-way multiplexing. The ability to read or write concurrently on any four of its tape units is a time-proven feature of the Philco 2000 Electronic Data Processing System. The four-way processing capabilities of the 2000 were increased with the introduction of Philco's one- and two-microsecond memories which are partitioned into four independently functioning banks and thus allow overlapping of four read or write memory cycles.

The Model 212 Computer is the first of the Philco 2000 series main frames to incorporate four-way processing. The computer is functionally partitioned into four logically independent units to allow overlapped processing of up to seven instructions. This new logical design contributes significantly to the high speed of the new computer.

The availability of the Model 212 Computer with 240 KC tapes and 960 KC disc files completes a balanced system utilizing four-way processing.



NEW CENTRAL PROCESSOR

MODEL 212. The new Philco 212 Central Processor affords up to 18-to-1 speed-up over previous models while maintaining software and hardware compatibility. • Asynchronous design • Full software and hardware compatibility • Four-way processing • 248 instructions • Four modes of automatic index register modification • Expanded repeat functions for automatic looping of up to four instructions.

NEW PERIPHERAL EQUIPMENTS

ADVANCED SATELLITE COMPUTER—
COMPLETES THE BALANCED SYSTEM

Philco's newly designed Satellite Computer is a stored-program machine which relieves the Philco 2000 of input formating and verification; conversion; file searching; and output editing. In on-line operation, it communicates directly with other Philco 2000 components; runs more than one program concurrently; and provides a wide variety of high speed input-output devices.

960 KC FILE
with 40-million character disc file

Philco Disc File System provides 960 KC rapid-access storage. Data flows directly between the discs and memory without interfering with other input-output operations. An order for data from the disc is transmitted and stored in the Disc File System, allowing the Central Processor to proceed immediately with previously read-in data while concurrently processing the disc order. The input or output of the disc is multiplexed with all other accesses to memory. Each Single File unit stores 41,991,040 alphanumeric characters. Minimum access entails no latency; maximum access requires 170 milliseconds positioning time.

1.0 μs MAGNETIC CORE STORAGE
with 0.5 μs read access

Philco's One-Microsecond Magnetic Core Storage System provides high-speed storage for the Philco 212 Central Processor. The memory is partitioned to permit up to four concurrent accesses. Four words can be read from or written into memory in one microsecond. Only one-half microsecond read access time is required for a full word.

240 KC MAGNETIC TAPE SYSTEM
with unrestricted 4-way read-write multiplexing

Philco High-Performance Magnetic Tape System has an instantaneous transfer rate of 240,000 alphanumeric characters per second per tape unit, and storage capacity of up to 66.4 million alphanumeric characters per reel. Any tape may be written forward, read forward and reverse, and searched for file marks forward and reverse. Any four magnetic tape units on an Input-Output Processor may be concurrently transmitting data. Units are connected to the memory of the Central Processor through Magnetic Tape Input-Output Processors. Input-Output orders for other Philco Tape Systems are compatible with this system.

NEW PHILCO 2000 SOFTWARE

PERT—A complete PERT system handling up to 7000 activities internally. Compatible with Air Force standards.

STATISTICAL SYSTEM — A complete system for generating edited statistical reports.

LINEAR PROGRAMMING—An improved version of LP-2000; input is compatible with SHARE format.

ALTAC III—An improved version of Philco's Algebraic Translator—ALTAC.

ALTAC IV—Compatible with the latest changes in the most common formula translator system. Designed especially for Philco 2000 systems with a 32K memory.

COBOL—Meets all U.S. Government standards.

TOPS II—An improved version of TOPS, Philco's own Business Oriented Language.

REPORT GENERATOR—Selects pertinent records from designated input files to produce edited reports.

PHILCO OPERATING SYSTEM SYS, Version D — A complete operating and service routine system, including program segmentation. Permits user to add specialized functions.

For detailed information about these and other Philco EDP equipments, wire, write or phone (215-OL 9-7700)

COMPUTER DIVISION, WILLOW GROVE, PA.

PHILCO®

A SUBSIDIARY OF *Ford Motor Company*

Chancery House, Chancery Lane, London, W.C.2, England / publication (monthly) "Computer Abstracts" and "Computer News" / DESCR: international coverage of technical literature, patents, commercial news, etc. / USE: supplied to computer manufacturers and users, libraries, documentation centers, etc. / $96 per annum / P15

P16. PUNCH CARD MACHINES

American Data Machines, Inc., 7 Commercial St., Hicksville, N.Y. / Mek-a-Punch / DESCR: portable, about 30 lbs. 80-column IBM type tab card. 12 or 18 manually positioned lever keyboard / USE: requiring no electricity, Mek-a-Punch can be used anywhere / $395.50 to $454.50 / P16
Automated Accounting Center of Connecticut
Autonetics Industrial Products, 3400 E. 70th St., Long Beach, Calif. / Recomp Tape Card Adapter Unit / DESCR: equipment allows Recomp computers to perform machine accounting functions by converting computer output signals to form acceptable to IBM 024 or 026 printing card punch equipment / USE: computer control / $4250 selling price; $150 per month lease price / P16
Burroughs Corp.
Data Computing Corp. -- see C27
Dennison Mfg. Co., Machines Systems Div., 300 Howard St., Framingham, Mass. / Dennison Print-Punch Marking Machine / DESCR: machine prints and code-punches tags and tickets in a single operation and at a speed of 200 stubs per minute. Expands the principle of automatic data processing to include forms used for inventory control, production control, payroll, and other industrial operations. Print-Punch tickets may be converted into IBM cards for use in tabulating equipment / USE: to provide single or multiple stub-coded basic input media / machine is rented, not sold / P16
Gordon Enterprises
International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N.Y. / a complete line of punched card machines including the low-cost Series 50 equipment / DESCR: card and tape punches, converters, verifiers, interpreters, ticket converter, sorters, collators, proof machines, test scoring machine, accounting machines, Cardatype accounting machine, calculating punches, etc. Details available upon request / Basic installations from $300 monthly rental. All prices exclusive of tax / P16
A. Kimball Co.
National Data Processing Co., dept of UNIVAC Div. of Sperry Rand Corp.
Philco Corp., a subsidiary of Ford Motor Co., Computer Div.
Radio Corp. of America, Electronic Data Processing
Remington Rand Univac -- see C24
Soroban Engineering, Inc.
Statistical Tabulating Corp.

R1. READERS

Automated Accounting Center of Connecticut
Benson-Lehner Corp.
J. H. Bunnell & Co.
Burroughs Corp.
Datex Corp.
N. V. Electrologica
Omnitronics, Inc., Subsidiary of Borg-Warner Corp. -- see R7
Philco Corp., a subsidiary of Ford Motor Co., Computer Div.

R2. READERS, CHARACTER

The Electro Nuclear Systems Corp.
International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N. Y. / IBM 1418 Optical Character Reader / DESCR: solid-state 1418 reads typed, printed or imprinted information from paper or card documents for direct input to an IBM 1401 / USE: for conversion of numerical data into machine language, which it feeds to IBM 1401 for processing / Monthly rental $2600 to $2900; selling price $120,300 to $133,800. All prices exclusive of tax / R2
International Business Machines Corp., Data Processing Div., *a / IBM 1428 Alphameric Optical Reader / DESCR: solid-state 1428 reads typed or printed letters and numbers from paper documents for direct input to an IBM 1401 / USE: for conversion of alphabetical and numerical data into machine language which it feeds to IBM 1401 for processing / Monthly rental $3000-$3300; selling price $138,600-$152,100. All prices exclusive of tax / R2
Link Division, General Precision, Inc. -- see C22A

R2.5 READERS, FILM

Benson-Lehner Corp.
Link Div., General Precision, Inc.

R3. READERS, MAGNETIC CARD

International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N.Y. / IBM Magnetic Character Sensing Equipment / DESCR: utility, proof and unit inscribers, magnetic character readers, reader sorters. Readers can be used with IBM 1401 and 1410 data processing systems and as independent units / USE: automating demand deposit accounting and other banking operations / Prices: 1201 proof inscriber: monthly rental $252, selling price $13,950. 1202 utility inscriber: monthly rental $75, selling price $1850. 1203 unit inscriber: monthly rental $145, selling price $5900. 1210 reader sorter: monthly rental $1750, selling price $71,800. 1219 reader sorter: monthly rental $2025, selling price $102,100. 1412 magnetic character reader: monthly rental $2000, selling price $91,400. 1419 magnetic character reader: monthly rental $2275, selling price $110,500. All prices exclusive of tax / R3

R4. READERS, MAGNETIC TAPE

N. V. Electrologica
The English Electric Co., Ltd., English Electric House -- see D1
Edwin A. Lipps Engineering
Midwestern Instruments, Inc. -- see T2
Packard Bell Computer Corp.
Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / magnetic tape recorder/reproducer / DESCR: analog type instrumentation magnetic tape recorder/reproducer. A single unit is capable of both FM and Direct record/reproduce operation / USE: widely used in the instrumentation field / $18,000 to $35,000 / R4

R5. READERS, MECHANICAL

Packard Bell Computer Corp.

R6. READERS, PAPER TAPE

Addo-x, Inc. -- see T8
Autonetics Industrial Products, 3400 E. 70th St., Long Beach, Calif. / Facitape AETR-510 High-Speed Tape Reader / DESCR: high speed paper reader for computer input; reads 280 ch/sec, stops on a character; capacitance type reader / USE: high speed paper tape input to computer / $4750 selling price; $125 per month lease price / R6
Autonetics Industrial Products - see T9
Burroughs Corp.
Digitronics Corp., 1 Albertson Ave., Albertson, L.I., N.Y. / tape readers and handlers / DESCR: high-speed, photoelectric, solid state perforated tape readers and handlers. Speeds, 100 to 2000 CPS / USE: with digital computers, machine tool controls, ground support equipment, instrumentation / $745 to $5280 / R6
The English Electric Co., Ltd., English Electric House -- see D1
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ontario, Can. / paper tape reader, Type 196B / DESCR: 1000 ft. tape spools synchronized start-stop speed to 200 char/sec.; free run speed, 300 char/sec.; speeds to 400 char/sec. available; bi-directional built-in test facility solid-state electronics throughout / USE: computer input; check-out and control systems / - / R6
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., *a

/ paper tape reader Type 260 / DESCR: designed and constructed to MIL-E-16400. Cassette storage of 50 feet endless loops of paper tape; cassettes readily removable to allow interchange of pre-programmed tapes / USE: data processing, check-out or control requiring repetitive input / - / R6
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., *a / paper tape reader, Type 271 / DESCR: designed and constructed to MIL-E-4970. Free run speed 300 char/sec; fast 1000 char/sec advance or rewind; card file mounting of logic circuitry; transistorized / USE: high-speed data processing; programming and control / - / R6
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., *a / paper tape block reader, Type 290 / DESCR: capable of reading to twelve characters simultaneously; free run speed 260 char/sec; synchronized start-stop speed up to 180 char/sec; transistorized modular construction / USE: computer input, check-out and control systems / - / R6
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / paper tape readers / DESCR: operate in conjunction with Friden Flexowriters, Computypers, or other tape-controlled machines (such as numerical control devices). Electro-mechanical operation / USE: general data processing, numerical control / - / R6
Friden, Inc., *a / edge-punched card readers / DESCR; similar to tape readers except that they are able to handle edge-punched cards (paper tape coding punched on cards) / USE: general data processing / - / R6
HRB-Singer, Inc., a subsidiary of The Singer Mfg. Co., 396 Fifth Ave., New York 18, N.Y. / SEMA Tape Reader / DESCR: high speed paper tape reader as attachment for SEMA Electronic Memory; reads at 300 characters per second; all standard codes / USE: as direct paper tape input to SEMA and SIM electronic memories / $400 per month / R6
Invac Corp. -- see I3
Omnitronics, Inc., Subsidiary of Borg-Warner Corp. -- see R7
Packard Bell Computer Corp.
Radio Corp. of America, Electronic Data Processing
Remington Rand Univac -- see C24
Soroban Engineering, Inc.
Tally Register Corp., 1310 Mercer St., Seattle 9, Wash. / paper tape reader / DESCR: asynchronous, bi-directional panel mounted reader. Tape handling facilities included. Contacts are full form C, precious metal. 0-60 char/sec (0-120 lps available). / USE: input to computers, tape processing systems, input to digital plotters, machine tool control / $575 to $850 / R6
Wang Laboratories Inc.

R7. READERS, PHOTOELECTRIC

American Bosch Arma Corp.
Digitronics Corp. -- see R6
The Electro Nuclear Systems Corp.
Invac Corp. -- see I3
Omnitronics, Inc., Subsidiary of Borg-Warner Corp., 511 N. Broad St., Philadelphia 23, Pa. / photoelectric paper tape readers / DESCR: high performance uni-directional and bi-directional photoelectric tape readers. Read all tapes without amplifier adjustment through use of chopped reflected light / USE: data input to digital computers, test equipment / $1800 to $3300 / R7
Packard Bell Computer Corp.
Science Research Associates, Inc., Data Services Div. -- see C28

R8. READERS, PUNCH CARD

The English Electric Co., Ltd., English Electric House -- see D1
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden tab card reader / DESCR: a second input source to Friden Flexowriters and Computypers; interprets data in 80-column tab cards which is then read out on master machine / USE: general data processing / - / R8
Gordon Enterprises
A. Kimball Co.
Packard Bell Computer Corp.
Radio Corp. of America, Electronic Data Processing
Remington Rand Univac -- see C24
Taurus Corp.

R9. RECORDING PAPERS

The Bristol Co.
Clarkson Press Inc., 189 Van Rensselaer St., Buffalo 10, N.Y. / GC Data Processing Forms / DESCR: continuous forms (single or multiple part) / USE: printing data on regular or high-speed printers / - / R9
Hathaway Instruments Inc.
Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / recording papers / DESCR: photographic and direct recording papers, standard and super thin base, full selection of widths and roll lengths / USE: data recording in Midwestern Instruments oscillographs / $3 to $65 / R9
Westronics, Inc. -- see D2

R10. RECTIFIERS

Clevite Transistor
General Instrument Corp., Rectifier Div.
Hughes Semiconductor Division
International Rectifier Corp.
International Resistance Co.
P. R. Mallory & Co., Inc.
Motorola Semiconductor Products Inc. -- see S2
Raytheon Co., Semiconductor Div.
Sylvania Electric Products Inc., Semiconductor Div.

Texas Instruments Inc. -- see C26
Texas Instruments Inc., Semiconductor Components Div. -- see C26
Transitron Electronic Sales Corp.

R11. REGISTERS, SHIFT

Delco Radio Div., General Motors Corp.
DI/AN Controls, Inc.
Epsco, Inc.
General Electric Co., Specialty Devices Operation
IMM Industries
Scientific Data Systems, Inc. -- see C12
Servomechanisms/Inc. -- see T11.2
Sprague Electric Co.

R12. RELAYS (COMPUTER TYPES)

Allied Control Company, Inc.
Assembly Producers, Inc.

AUTOMATIC ELECTRIC SALES CORP., Northlake, Ill. / (1) SERIES V 51 MERCURY WETTED CONTACT RELAY; (2) CLASS W WIRE-SPRING RELAY / DESCR: (1) up to 100 operations/second for over billion operations with no contact bounce; contacts and armature assembly sealed in glass capsule with mercury pool; make-before-break contacts (Form D) switch 250 volt-ampere loads, max. 5 amps., 500 volts; high power or low level operation. (2) provides up to 51 Form C (break-make) contacts; wire wrap (solderless) terminals / USE: (1) for high-speed circuit switching in computers. (2) for transferring up to 51 circuits / $20 to $55 / R12

Bourns, Inc., Trimpot Division
The Bristol Co.
C. P. Clare & Co.
Cornell-Dubilier Electronics, div. of Federal Pacific Electric Co.
Daystrom, Inc., Weston Instruments Div.
Thomas A. Edison Industries, Instrument Div. of McGraw-Edison Co.
Hathaway Instruments Inc.
The A. W. Haydon Co.
Walter Kidde & Co., Inc., Kidde Electronics Laboratories
Mace Corp. -- see A4
Phillips Control Co., 59 W. Washington St., Joliet 1, Ill. / microminiature, power, and telephone relays / DESCR: compact, hermetically sealed micro-miniature relays, power relays, and telephone relays / USE: for all types of commercial, industrial, and military applications in computers, data processing, miniature circuits, switching / $0.50 to $20 / R12
Potter & Brunfield
Radiation Incorporated
Raytheon Co., Industrial Components Div.
Soroban Engineering, Inc.
Telex/Aemco, a Div. of Telex, Inc.
Union Switch & Signal Div. of Westinghouse Air Brake Co.
Ward Leonard Electric Co.

R12A. RESEARCH

Battelle Memorial Institute, 505 King Ave., Columbus 1, O. / research / DESCR: Systems engineering, operations research, information engineering, economic research. Also mathematical modeling, computer design, numerical machine control, self-organizing networks, information theory / - / - / R12A
Duke University, Computing Laboratory
Rockford Research Institute Inc.
Zator Co.

R13. RESISTORS

Aerovox Corp.
Arnhold Ceramics, Inc., 1 E. 57 St., New York 22, N. Y. / STEMAG and RESISTA electronic components / DESCR: subminiature carbon potentiometers and trimmers, high quality carbon and metal film resistors / - / 5¢ to $5 / R13
Beckman Instruments, Inc., Berkeley Div.
CENTRALAB (The Electronics Div. of Globe-Union Inc.), 900 E. Keefe Ave., Milwaukee 1, Wis. / electronic components / DESCR: resistors / USE: as basic components to circuits / varies / R13
Corning Electronic Components, Corning Glass Works
Dale Electronics, Inc., P. O. Box 488, Columbus, Nebr. / resistors / DESCR: wire wound (precision and precision power), metal film, deposited carbon / USE: component in all types of circuits / prices on request / R13
Daystrom, Inc., Weston Instruments Div.
Electro-Mec Instrument Corp.
Ferroxcube Corp. of America
General Instrument Corp., Semiconductor Div.
Imm Industries
International Resistance Co., 401 N. Broad St., Philadelphia 8, Pa. / resistors / DESCR: composition, film, power, and precision wire wound, and special application / - / - / R13
Kelvin Electric Co., 5909 Noble Ave., Van Nuys, Calif. / precision wire wound resistors and resistor networks / DESCR: resistors and networks produced to close tolerances, reliability, drift, temperature coefficient, resistance, tracking and matching / USE: in digital and analog computers; readout equipment / - / R13
Nucleonic Products Co., Inc.
Resistance Products Co., 914 S. 13th St., Harrisburg, Pa. / electronic component precision resistors / DESCR: singular or complex resistor units of wire-wound coils, carbon films, metal films, or any combination thereof. Complex units: groups of singular resistors or singular envelope containing multiple resistor element / USE: in electronic equipment requiring components of precise resistance or impedance / $1.35 to $450 / R13
Sage Electronics Corp., Box 3926, Rochester 10, N.Y. / precision power resistors / DESCR: miniature wire-wound power resistors ½ to 10 watts, silicon coated; metal sheathed chassis mount types, 10, 25, 50 watt rating; non-inductive windings for fast rise time circuitry / USE: DC or pulsed power loads / approximately $0.28 and up, depending on value, tolerance, quantity / R13
Servomechanisms/Inc., 200 No. Aviation Blvd., El Segundo, Calif. / resistors / DESCR: precision, fixed wire-wound resistors with weldable or solderable leads, miniature / USE: electronic circuits / - / R13
Sprague Electric Co.
Texas Instruments Inc. -- see C26
Texas Instruments Inc., Semiconductor Components Div. -- see C26
Ward Leonard Electric Co., Mt. Vernon, N.Y. / resistors / DESCR: precision wire-wound power type; metal film precision, high current; loading resistors / - / - / R13

R14. RESOLVERS

Beckman Instruments, Inc., Berkeley Div.
The Bendix Corp., Eclipse-Pioneer Div.
Clifton Precision Products Co., Inc.
Control Data Corporation
Giannini Controls Corp.

R15. RESOLVERS, COORDINATE TRANSFORM

Reeves Instrument Corp.

R16. RESOLVERS, PRODUCT

Daystrom, Inc., Weston Instruments Div.
Reeves Instrument Corp.

R17. RESOLVERS, SINE-COSINE

Clifton Precision Products Co., Inc.
Reeves Instrument Corp.

R18. ROBOTS

Consolidated Controls Corp., 16 Durant Ave., Bethel, Conn. / robot / DESCR: Unimate, a teachable industrial robot, whose memory controls a powerful arm and hand. Can remember 200 sequential operations at a time, and learn new operations easily / USE: to replace an industrial worker on repetitive or hazardous jobs / $25,000 / R18

S1. SCANNERS

Datex Corp.
Electro Instruments, Inc. -- see A3
The Electric Nuclear Systems Corp.
Farrington Electronics Inc.
Gilmore Industries, Inc.

Hagan Chemicals & Controls, Inc.
Lloyd Industries, 40 Grove St., So. Hackensack, N. J. / code discs / DESCR: ultra-precise patterns on glass or metals for scanning, shaft-positioning, or pulse generating / USE: navigational systems. Analog-to-digital conversion units / $10 to $1000 / S1
Monitor Systems, Inc.
Non-Linear Systems, Inc.
Science Research Associates, Inc., Data Services Div. -- see C28

S2. SEMICONDUCTORS

Amperex Electronic Corp.
Calvert Electronics Inc.
Clevite Transistor
Cornell-Dubilier Electronics, div. of Federal Pacific Electric Co.
Delco Radio Div., General Motors Corp.
Fairchild Controls Corp.
General Electric Co., Specialty Devices Operation
Imm Industries
Motorola Semiconductor Products Inc., 5005 East McDowell Rd., Phoenix 8, Ariz. / semiconductors / DESCR: silicon and germanium transistors, silicon rectifiers, silicon zener diodes and integrated circuits / USE: for virtually all applications in the computer field / - / S2
Philco Corp., Lansdale Div., a subsidiary of Ford Motor Co., Church Rd., Lansdale, Pa. / semiconductors / DESCR: germanium and silicon high-speed switching transistors for use in binary counter stages, pulse shapers, driver stages and in all logic and switching circuits / USE: design of high-speed data processing systems / - / S2
Raytheon Co., Semiconductor Div.
Sanders Associates, Inc.
Sperry Semiconductor Div. of Sperry Rand Corp.
Sylvania Electric Products Inc., Semiconductor Div., 100 Sylvan Rd., Woburn, Mass. / semiconductors / DESCR: germanium alloy switching transistors; silicon and germanium epitaxial mesa transistors; silicon planar epitaxial transistors; silicon junction and bonded diodes; silicon 2, 3, and 4 junction multiple planar diodes / USE: high speed switching, computer, and general use / S2
Texas Instruments Inc. -- see C26, T14, T15, T16
Texas Instruments Inc., Semiconductor Components Div. -- see C26

S2A. SERVOMECHANISMS

Andersen Laboratories Inc.
Astrometrics, Inc.
Atlas Precision Products Co., Div. of Prudential Industries, Inc.
Beckman Instruments, Inc.
The Bendix Corp., Eclipse-Pioneer Div.
Clifton Precision Products Co., Inc.
GAP Instrument Corp.
Giannini Controls Corp.
Imm Industries
Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif. / servomodules / DESCR: line of servomodules for analog-and-digital data transmission, computation, conversion, and display. Exceeds military requirements / USE: fire-control, process-control, checkout and communications systems / - / S2A
Librascope Div., General Precision, Inc., *a / Model 100-2 miniature servo / DESCR: miniature servo with size 8 components. Weight, 12.5 oz. Length, 3½ in. / USE: fire-control, spacecraft-guidance, navigation systems / $1200 to $3000 / S2A
Mace Corp. -- see A4
Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / servo components / DESCR: high frequency proportional solenoids, "torque motor" rotary and linear actuators, hydraulic servo valves, digital pneumatic valves / USE: high performance electromechanical systems and peripheral equipment / $100 to $500 / S2A
Moog Servocontrols, Inc.
Moran Instrument Corp.
Nortronics, a div. of Northrop Corp., Precision Products Dept.
Reeves Instrument Corp.
Westgate Laboratory, Inc. -- see B1

S3. SIMULATORS

ACF Electronics Div., ACT Industries Inc.
Aircraft Armaments, Inc., Industry Lane, Cockeysville, Md. / simulators / DESCR: air traffic control, missile training (REDSTONE, SERGEANT, ATLAS, POLARIS, NIKE), radar target, 3-axis flight / USE: training, test and evaluation of components and systems / custom / S3
Cybetronics, Inc. -- see T11.1
Datapulse Inc., 509 Hindry Ave., Inglewood, Calif. / Model 200 Data Generator / DESCR: generates programmed serial pulse data up to 100 bits in one channel or bits in 2 channels at clock rates to 2 mc. Plug-in output units available provide ±15v into 50 Ω variable linear rise time pulses, variable DC level pulses, pulse modulated sub-carrier output, or 5 nanosec. rise time pulses / USE: simulation of data, development of logic circuitry / $3600 to $4500 / S3
Datapulse Inc., *a / Model 202 Data Generator / DESCR: serial pulse data in 2 channels with 16 bit cycle length at clock rates to 5 mc. Plug-in output amplifiers available provide ±15v into 50 Ω variable DC level output, pulse modulated sub-carrier, or 5 nanosec. rise time pulses / USE: data simulation, logical circuit design / $1700 to $2600 / S3
Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / reactor simulator / DESCR: simulator for the

study of reactor kinetic, control and start-up problems / USE: model of reactor is mechanized on computer for dynamic and accident studies / on request / S3
Elgenco, Inc.
General Dynamics/Astronautics a Div. of General Dynamics Corp.
Link Division, General Precision, Inc.
Reflectone Electronics, Inc., a subsidiary of Universal Match Corp., W. Main St., Stamford, Conn. / training systems, special purpose computing, instrumentation and control equipment / DESCR: design, produce large-scale, electronic training systems. Simulation of weapons and defense systems involving analog and digital techniques, data transmission and automatic programming / USE: military and industrial training / - / S3
Scientific Development Corp.
The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. / simulators / DESCR: contractual data processing. Application of simulation techniques to problems of business, science, and industry using general purpose digital computers / - / - / S3
Sylvania Electronic Systems, a Div. of Sylvania Electric Products Inc.
Westgate Laboratory, Inc. -- see B1

S3A. SOCKETS

Cinch Manufacturing Corp.
Elco Corp. -- see C29

S4. STORAGE SYSTEMS

Benson-Lehner Corp.
Bryant Computer Products, Div. of Ex-Cell-O Corp., 850 Ladd Rd., Walled Lake, Mich. / storage systems / DESCR: modular mechanical and electronic components for wide range of systems. Standard frequencies of DC to 500 kc; higher as required. Designed for complete magnetic drum or disc file systems, including read, write, selection, and interface circuitry / USE: commercial, industrial, military drum and disc file systems / - / S4
Budd Electronics
Calvert Electronics Inc.
Cognitronics Corp. -- see D12
DI/AN Controls, Inc.
Epsco, Inc.
FMA, Inc. -- see I2
Image Instruments, Inc., 2300 Washington St., Newton Lower Falls 62, Mass. / recording storage tube systems / DESCR: single-gun, dual-gun, multi-tube systems for video data storage, scan conversion, analog data processing, computer data display storage / USE: slowed television, radar to TV conversion, etc. / $14,000 to $27,500 / S4
LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / storage systems / DESCR; magnetic drum and disc systems, analog and digital. Complete memory/storage system capability / - / - / S4
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2
Radio Corp. of America, Electronic Data rocessing
Société D'Electronique Et D'Automatisme
Sorobar Engineering, Inc.
Univac Military Operations of Sperry Rand Corp.

S5. STORAGE SYSTEMS, MAGNETIC

Alden Products Co.
Bryant Computer Products, Div. of Ex-Cell-O Corp. -- see M2 and S4
Burroughs Corp.
Consolidated Controls Corp. -- see M2
Consolidated Electrodynamics Corp.
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ontario, Can. / large memory systems / DESCR: drum memory system 8,650,752 bit storage, modular construction, built-in MCV test, power and control facilities MIL-E-4158B. Drum modules complete with removeable air bearing magnetic shell, read/write amplifiers, drum controls. 9ms access via 1.5 mcs transfer circuitry for remote (100 ft.) or direct coupling to GP solid state computer. Standard model 33 bits/word. Storage expandable to 16 megabit capacity / USE: with computing or data processing systems / $300,000 to $800,000 / S5
HRB-Singer, Inc., a subsidiary of The Singer Mfg. Co. -- see C24, C24A
LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc., 1079 Commonwealth Ave., Boston 15, Mass. / magnetic storage systems / DESCR: complete memory/storage systems utilizing a rotating magnetic data storage device using the Bernoulli principle to stabilize the flexible recording medium -- with complete electronics / USE: computer or buffer memory; commercial or military application / - / S5
LFE Electronics, Computer Products Division, A Division of Laboratory For Electronics, Inc., -- see D11, D12 and S4
LFE Electronics, Systems Division, A Division of Laboratory For Electronics, Inc. -- see I2
Univac Military Operations of Sperry Rand Corp.
Wright Engineering Co., Inc.

S6. SWITCHES

Aerovox Corp.
Allied Control Company, Inc.
Astrometrics, Inc.
The Bristol Co.
CENTRALAB (The Electronics Div. of Globe-Union Inc.), 900 E. Keefe Ave., Milwaukee 1, Wis. / electronic components / DESCR: switches / USE: as basic components to circuits / varies / S6
Consolidated Controls Corp.
Control Switch Div., Controls of America
Dialight Corp. -- see L1
Electro-Miniatures Corp.
Fairchild Controls Corp.
Hathaway Instruments Inc.
Imm Industries
Markite Corp.
Micro Switch, a division of Minneapolis-Honeywell Regulator Co., 11 W. Spring St., Freeport, Ill. / precision switches / DESCR: complete line of precision snap-action and mercury switches, from modular lighted display and pushbutton devices to synchronized "one-shot" switch-circuit devices / USE: control, indication and minute operation / $3 to approx. $25 / S6
Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility
Pendar, Inc.
Rotron Manufacturing Co., Inc. -- see F1A
Stellarmetrics
Sylvania Electronic Systems
Telex/Aemco, a Div. of Telex, Inc.
Transitron Electronic Sales Corp.

S7. SWITCHES, STEPPING

AUTOMATIC ELECTRIC SALES CORP., Northlake, Ill. / ROTARY STEPPING SWITCHES / DESCR: types 40, 44, 80 and 88-small; 10, 20, 30, 22 or 33 point selection -- up to 12 bank levels; type 45 -- two to twelve 25-point bank levels; capacities -- 25 points, 16 levels; 50 points, 8 levels. Also available with solderless terminals, hermetic sealing and other special features / USE: circuit scanning, etc. / $15 to $50 / S7

C. P. Clare & Co.
Hathaway Instruments Inc.
Hillburn Electronic Corp., 55 Greenpoint Ave., Brooklyn, N.Y. / high speed digital stepping switch / DESCR: high speed stepping switch with direct visual and printed circuit readout. Ten position switch with carry at "9" and auto homing to "0" / USE: as digital clock, counter, programmer, signal initiation / $16 to $50 / S7
Imm Industries

S8. SYNCHROS

The Bendix Corp., Eclipse-Pioneer Div.
Clifton Precision Products Co., Inc., Marple at Broadway, Clifton Heights, Pa. / rotary components / DESCR: manufacturer / USE: servo systems / - / S8
Control Data Corporation
Giannini Controls Corp.
IMC Magnetics Corp., Western Div., 6058 Walker Ave., Maywood, Calif. / synchros / DESCR: size 8 and size 11, 7' and 5' units covering com-

plete span of practical inpedance levels. Available with transparent end caps for rear alignment of electrical zero. Stainless steel or aluminum housing / - / - / S8
Reeves Instrument Corp.

S9. SYSTEMS ENGINEERING

Aircraft Armaments, Inc. -- see C25, S3
American Data Services, Inc.
American Research and Manufacturing Corp.
Aries Corporation -- see C30
Arkay Engineering, Inc.
Auerbach Corporation -- see C30

AUTOMATIC ELECTRIC SALES CORP., Northlake, Ill. / SYSTEMS ENGINEERING / DESCR: consultants, designers and manufacturers of customized, automatic data handling systems. Business data instantly routed to any one or a number of destinations over diversified transmission paths. Other examples include systems for traffic control, oil and gas pipeline control systems, railroad dispatching, communications-network switching, municipal emergency services, etc. / - / - / S9.

Battelle Memorial Institute -- see R12A
Beckman Instruments, Inc.
Bonner & Moore Associates, Inc., 6910 Fannin St., Houston 25, Tex. / systems engineering / DESCR: consulting in systems engineering. Data reduction and process control systems design. On-line computers / - / - / S9
C-E-I-R, Inc.
Civil Engineering Systems Laboratory
Clifton Precision Products Co., Inc.
Cognitronics Corp.
Compumatix, Inc. -- see C30
Computer Logic Corp.
Computer Systems Consultants -- see C30
Computer Usage Company, Inc. -- see C28
Condenser Products Co.
Consolidated Systems Corp., 1500 So. Shamrock Ave., Monrovia, Calif. / engineering systems design / DESCR: electronic and electro-mechanical systems. Analog to digital conversion systems / USE: for analog and digital data handling, ground and space support, industrial control and electro-optical applications / - / - / S9
Control Data Corporation
Control Technology, Inc.
Daniel, Mann, Johnson & Mendenhall
Data Sciences, Inc.
Denver Electronic Computing Service, Inc.
Designers for Industry, Inc.
Dynatech Corp.
Electro Instruments, Inc. -- see A3
Elliott Bros. (London) Ltd., Elliott Computing Div.
Executive Computer Utilization -- see C27
Fae Instrument Corp.
General Kinetics Inc.
Giannini Controls Corp.
Gulton Industries, Inc.
Harman-Kardon Inc., Data Systems Division -- see C26
Hathaway Instruments Inc.
S. Himmelstein & Co.
Imm Industries
Informatics, Inc. -- see P12A
International Business Machines Corp., Federal Systems Division
International Electric Corp., Route 17 and Garden State Parkway, Paramus, N.J. / electronic systems management / DESCR: over 1000 mathematicians, engineers, programmers, psychologists, administrators for, designing, developing, manufacturing, installing, maintaining and operating data transmission, processing, automatic display, human factors engineering systems / USE: business, engineering, industry, science, government / - / S9
The ITT Data Processing Center -- see C27
Laboratory for Electronics Inc., Monterey Laboratory
Management Assistance Inc. -- see C24A

MESA SCIENTIFIC CORP., 12838 Weber Way, Hawthorne, Calif. / SYSTEMS ENGINEERING / DESCR: consulting, systems analysis and synthesis, and logic design related to general-purpose computers, digital differential analyzers, guidance and control systems, automatic checkout and instrumentation systems / S9

Midwest Research Institute
Mitre Corp., P. O. Box 208, Bedford, Mass. / technical advice -- system engineering / DESCR: assists the Air Force Electronic Systems Div. in their systems management responsibility by systems planning and engineering / - / - / S9
National Computer Analysts, Inc.
National Cybernetic Corp., 111 Broadway, Room 114, New York, N.Y. / system engineering / DESCR: computer feasibility studies, system evaluation, data processing, programming, data transmission systems, application research / USE: consulting service / - / S9
Nortronics, a div. of Northrop Corp., Electronic Systems & Equipment Dept.
Nortronics, a div. of Northrop Corp., Precision Products Dept.
Nortronics, a div. of Northrop Corp., Systems Support Dept.
Pacific Tabulating & Statistical Ltd.
H. M. Semarne
Space Technology Laboratories, Inc. -- see C27
Sperry Farragut Co., Div. of Sperry Rand Corp.
Statistical Tabulating Corp. -- see C30
Stellarmetrics
System Development Corp.
Tally Register Corp.
Tech Serv Inc.
Thompson Ramo Wooldridge Inc., RW Div.
Traid Corp.
U. S. Naval Weapons Laboratory, Computation and Analysis Lab.
Wiancko Engineering Co., 255 No. Halstead Ave., Pasadena, Calif. / FM

"building-block" systems / DESCR: compatible FM system components which can be assembled for numerous applications; e.g., direct read-out multiplication, summation and ratios of temperature, pressure, force, etc. / - / $1200 and up / S9
Woods, Gordon & Co.

T1. TACHOMETERS

Electro Products Laboratories, Inc.
Giannini Controls Corp.
The A. W. Haydon Co.
Hewlett-Packard Co.
Sangamo Electric Co., 1301 North 11th St., Springfield, Ill. / tachometer generator / DESCR: miniature motor generator with drag cup rotor. With one phase excited generator produces output voltage proportional to speed of the shaft / USE: rate tachometer in velocity servo / $70 to $150 / T1

T2. TAPE HANDLERS

Amplifier Corp. of America, 398 Broadway, New York 13, N.Y. / tape handlers / DESCR: special cartridges for protection, simplifier handling and storage of endless-loop, punched-tape programs / T2
J. H. Bunnell & Co.
Burroughs Corp.
Consolidated Electrodynamics Corp. -- see T5
Dresser Products Inc., P. O. Box 2035, Providence 5, R.I. / punched tape handling equipment and filing supplies / DESCR: folders, winders, rewinders to facilitate tape handling. Envelopes and file folders standard and custom made for housing punched tapes / - / - / T2
General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / tape handlers, tape testers, ultrasonic tape cleaners, KINESONIC tape cleaners/ DESCR: special purpose and custom made transports with speeds up to 240 i.p.s. Special purpose tape recorders and tape testers / $2445 and $35,000 / T2
Invac Corp.
Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / M3000 digital tape system / DESCR: high performance handlers; IBM compatible; special systems; solid state; pressure drive for utmost reliability / USE: computer systems; off-line processing; control systems / $8000 to $17,000 / T2
Midwestern Instruments, Inc. -- see D2, I3
Monarch Metal Products, Inc. -- see T3A
Omnitronics, Inc., Subsidiary of Borg-Warner Corp., 511 N. Broad St., Philadelphia 23, Pa. / tape handlers / DESCR: complete range of tape handlers for paper tape systems. High performance units do not break tape / USE: supply and take up tape for photoreaders and the like / $500 to $2000 / T2
Radio Corp. of America, Electronic Data Processing
Tally Register Corp., 1310 Mercer St., Seattle 9, Wash. / tape preparation and automatic typing system / DESCR: utilizes either IBM Selectric (155 words per minute) or IBM Model B (120 words per minute) full error correction and code search features available / USE: tape preparation, editing, hard copy print-out / $4200 to $5640 / T2
Wright Line, Div. of Barry Wright Corp.

T3. TAPE, MAGNETIC

The Arnold Engineering Co. -- see M1
Audio Devices, Inc., 444 Madison Ave., New York 22, N. Y. / EP Computer Audiotape / DESCR: extra precision magnetic recording tape for use in computers. 100% certified according to computer manufacturer specifications. Also for use in telemetry, seismography and automation / USE: for recording and reproduction of electronic impulses / - / T3
Automated Accounting Center of Connecticut
Computron Inc., 122 Calvary St., Waltham, Mass. / COMPUTAPE / DESCR: high quality, high density, heavy duty data processing and instrumentation tape. Offered at guaranteed certification of 556 gits and 800 bits (NRZ) / USE: magnetic tape transports. Input and output media / quoted upon request / T3
Control Data Corporation
Cybetronics, Inc., 132 Calvary St., Waltham 54, Mass. / magnetic tape cleaner / DESCR: lint, dirt, loose oxide and Mylar particles removed from both sides of magnetic tapes by harmless mechanical method. Minimizes dropouts; produces uniform output signal level / USE: cleans magnetic tapes for computer, instrumentation and telemetering applications / $900 to $1200 / T3
General Dynamics/Astronautics a Div. of General Dynamics Corp.
Memorex Corp.
N. V. Electrologica
Potter Instrument Co., Inc.
Reeves Soundcraft Corp.
Remington Rand Univac -- see C24

T3A. TAPE, MAGNETIC, FILING SYSTEMS

Burroughs Corp.
Monarch Metal Products, Inc., MacArthur Ave., New Windsor (Newburgh), N. Y. / tape filing, storage and moving accessories / DESCR: different types of cabinets and racks; for filing or storage of magnetic tape reels; trucks for transporting reel containers / USE: tiling, storing, moving magnetic tape reel containers / - / T3A
Wright Line; Div. of Barry Wright Corp.

T4. TAPE, MAGNETIC, READERS

The English Electric Co., Ltd., English Electric House -- See D1
Midwestern Instruments, Inc. -- see T2
N. V. Electrologica
Potter Instrument Co., Inc.
Tally Register Corp. -- see R6

T5. TAPE, MAGNETIC, RECORDERS

Amplifier Corp. of America, 398 Broadway, New York 13, N. Y. / tape recorders / DESCR: transistorized magnetic tape recorders and tape decks; also continuous loop tape recorders and playback equipment / T5
Audio Instrument Co., Inc., 135 West 14 St., New York 11, N. Y. / tape time delay unit / DESCR: magnetic tape recorder-reproducer using a magnetic tape loop. Playback head position adjustable to change delay time / USE: element in simulation system, provide delay in analog system / $1400 to $20,000 / T5
Burroughs Corp.
Consolidated Electrodynamics Corp., 360 Sierra Madre Villa, Pasadena, Calif. / DR-2700 / DESCR: digital tape transport for computer, industrial control, and laboratory applications; high performance, vacuum-buffered unit with forward/reverse speeds of 150 and 75 ips / - / - / T5
Datamec Corp., 345 Middlefield Rd., Mountain View, Calif. / digital magnetic tape unit / DESCR: IBM compatible; ½" tape, 10½" reels, 30 ips, vacuum column tape buffers, 5 millisecond bi-directional start/stop times. Reads/writes 200 bpi; 555 bpi magnetic tapes in IBM format / USE: as on line computer input/output; offline for card to tape and printers / $3800 to $9000 / T5
The English Electric Co., Ltd., English Electric House -- see D1
General Kinetics Inc. -- see T2
Hagan Chemicals & Controls Inc.
Midwestern Instruments, Inc. -- see T2
Potter Instrument Co., Inc.
Sanborn Company, 175 Wyman St., Waltham 54, Mass. / 7-channel FM tape recorder, Model 2000 / DESCR: 7-channel, 4 speed FM or direct record/reproduce. Meets IRIG telemetry standards. All solid state electronics. Occupies 7" of panel space; uses standard ½" tape on 10½" reels / - / $6800 / T5

T5A. TAPE, MAGNETIC, REELS

Computron Inc. -- see T3
General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / reels / DESCR: special tape reels and packaging designed for maximum protection of tapes during handling and long term storage / 50¢ to $50 / T5A

T6. TAPE, PAPER

Creed & Co., Ltd. (assoc. of IT&T Corp.)
Friden, Inc. -- see P4
Invac Corp.
Mountain Data Systems, Inc. -- see C27
Tally Register Corp., 1310 Mercer St., Seattle 9, Wash. / tape preparation, duplication, and verification console / DESCR: to prepare tapes from a keyboard, to verify and duplicate copy tapes from a master tape. Speed is 60 characters per second / USE:

multiple tape copies for ground check-out equipment, machine tool control / $3965 to $4769 / T6
Telecomputing Services, Inc. -- see D2A

T7. TAPE, PAPER, FILING SYSTEMS

T8. TAPE, PAPER, PUNCHES

Addo-x, Inc., 300 Park Ave., New York 22, N. Y. / tape punches and readers / DESCR: punches combined with Addo-x adding, posting machines, equipped with perforated plastic card matrix programming device. Readers may be connected to Addo-x adding, posting machines for read-out; to IBM card punches for tape-to-card conversion / USE: as input to computers or read-out from computers / $2000 to $4000 / T8

ANADEX INSTRUMENTS INC., 7617 Hayvenhurst Ave., Van Nuys, Calif. / TAPE PERFORATING PUNCH / DESCR: punch for mylar or paper tape; up to 60 characters per second; 5, 6, 7, or 8 hold code; non-synchronous operation / USE: as output device for computers or data processing equipment / $400 to $2000 / T8

Autonetics Industrial Products -- see T9
Creed & Co., Ltd. (assoc. of IT&T Corp.)
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / tape punches / DESCR: used with Friden Flexowriters, Friden Computypers, and allied equipment to prepare a second paper tape as a by-product of producing original documents / USE: general data processing / - / T8
Invac Corp. -- see I3
N. V. Electrologica
Radio Corp. of America, Electronic Data Processing
Remington Rand Univac -- see C24
Société D'Electronique Et D'Automatisme
Soroban Engineering, Inc.
Systematics, a Div. of General Instrument Corp. -- see C42
Tally Register Corp., 1310 Mercer St., Seattle 9, Wash. / paper tape perforator / DESCR: asynchronous, 0-60 character/second, will perforate paper, aluminum foil or mylar tapes. Panel mounted, tape handling included. 5 through 8 levels can be perforated interchangeably / USE: computer output, data acquisition systems, tape preparation systems / $1000 to $1060 / T8
Teletype Corp.

T9. TAPE, PAPER, READERS

Addo-x, Inc. -- see T8
Autonetics Industrial Products, 3400 E. 70th St., Long Beach, Calif. / Facitape Console / DESCR: reliable high-speed tape handling console unit which incorporates 600 ch/sec reader and 150 ch/sec punch into a single semi-portable unit / USE: computer peripheral equipment / $16,950 selling price; $500 per month lease price / T9
The English Electric Company, Ltd., English Electric House -- see D1
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / tape readers / DESCR: used with Friden Flexowriters, Friden Computypers, and allied equipment as second input source / USE: general data processing / - / T9
Invac Corp. -- see I3
HRB-Singer, Inc., a subsidiary of the Singer Mfg. Co. -- see R6
Omnitronics, Inc., Subsidiary of Borg-Warner Corp. -- see R7
Potter Instrument Co., Inc.
Radio Corp. of America, Electronic Data Processing
Remington Rand Univac -- see C24
Société D'Electronique Et D'Automatisme
Soroban Engineering, Inc.
Tally Register Corp. -- see T6
Teletype Corp.
Wang Laboratories Inc.

T10. TELEMETERING SYSTEMS

Aircraft Armaments, Inc. -- see C25
Airpax Electronics, Inc.
Astrometrics, Inc.
Beckman Instruments, Inc.
Dorsett Electronics, Inc., 119 W. Boyd, Norman, Okla. / telemetry systems and components / DESCR: airborne and mobile telemetry systems designed to meet specific requirements of customers / USE: data transmission / various / T10
Dresser Electronics, SIE Div., a div. of Dresser Industries, Inc.
The English Electric Co., Ltd., English Electric House -- see D1
Epsco, Inc.
Gulton Industries, Inc.
The Hoover Company, Electronics Div.
Maxson Electronics Corp.
Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / FM telemetry system components / DESCR: subcarrier discriminators, voltage controlled oscillators, mixer amplifiers, reference oscillator subcarrier mixers, compensation delay units / USE: instrumentation systems, data transmission / $1000 to $2,500 / T10
Shand and Jurs Co., a subsidiary of General Precision Equipment Corp., 2600 Eighth St., Berkeley 10, Calif. / telemetering systems / DESCR: RATE--Remote Automatic Telemetering Equipment. Data gathering, control and constant alarm scanning / USE: for the petroleum, chemical and allied industries / - / T10
Wiancko Engineering Co.
Winsco Instruments & Controls Co.

T11. TERMINALS

AMP, Inc.
Cinch Manufacturing Corp.
Sylvania Electronic Systems

Taurus Corp.
Winchester Electronics, Inc.

T11.1 TEST EQUIPMENT

ACF Electronics Div., ACF Industries Inc.
American Bosch Arma Corp.
Amplifier Corp. of America
AR&DA Div. of All American Engineering Co., 135 Main St., Belleville 9, N. J. / test equipment design and fabrication / DESCR: semi and fully automated electronic and electrical test equipment for component, subassembly and complete product performance, parameter and life testing / USE: incoming, production line and final inspection, test and evaluation programs / $1000 to $20,000 / T11.1
Arenberg Ultrasonic Lab., Inc.
Beckman Instruments, Inc.
Bendix Corp., Industrial Controls Section
Bowmar Instrument Corp.
Richard D. Brew & Co., Inc., 90 Airport Rd., Concord, N. H. / environmental test laboratory / DESCR: environmental test laboratory for qualification testing in accordance with customer and military specifications / USE: tests vibration, shock, humidity, altitude, high and low temperature / rate on request / T11.1
Cadre Industries Corp. -- see C2
Calvert Electronics Inc., 220 E. 23rd St., New York 10, N. Y. / REMSCOPE / DESCR: storage time 1 week, display time 2 hours; plug-in Y amplifier erases time in less than 1 second; variable persistence; compares 10 consecutive signal with trace shifter / USE: study fast transients without photography-presentation of analog computer outputs, low frequency repetitive wave forms, compare consecutive signals / $4500 / T11.1
Computer Logic Corp., 11800 W. Olympic Blvd., Los Angeles 64, Calif. / Digital Relay Timer RT-1 / DESCR: self-contained, display optional, measures all relay time characteristics including make bounce, break bounce, polorized relay timing, and differential timing between two contact sets, etc. / USE: operator provides energizing potential, connects relay (s) through the front panel and chooses (1) function to be measured, (2) speed of operation, and (3) length of display time / $1660 to $2340 / T11.1
Consolidated Avionics Corp.
Consolidated Electrodynamics Corp.
Cornell-Dubilier Electronics, div. of Federal Pacific Electric Co.
Cybetronics, Inc., 132 Calvary St., Waltham 54, Mass. / magnetic tape certifier / DESCR: automatic write-read system to detect drop-outs on all channels simultaneously at any specified threshold level. Tape defects can be visually examined and removed / USE: certifies magnetic tape on any standard tape transport / $4000 to $6000 / T11.1

Cybetronics, Inc., *a / digital pattern generator / DESCR: ferro-magnetic programmer with ten outputs each having 64 serial bits for one-shot or cycling operation at 250 kc. Pulses changeable. External or internal triggering / USE: testing and simulation of digital and magnetic tape systems. Flexible fixed random access storage / $3800 to $5700 / T11.1

Datapulse Inc., 509 Hindry Ave., Inglewood 1, Calif. / Model 102 3 mc Pulse Generator / DESCR: provides ±50v into 50Ω pulses at 10 nanosec. rise time, repetition rate to 3 mc, duration 50 nanosec. -- 10 millisec., delay 150 nsec. -- 10 millisec. / USE: clock signal pulse testing / $720 to $820 / T11.1

Datapulse Inc., *a / DESCR: Model 103 Transistorized Pulse Generator / DESCR: generates single or double pulses, with separate delay, at repetition rates to 5 mc. Plug-in output amplifiers available provide ± 15v into 50Ω variable DC level output, pulse modulated sub-carrier, or 5 nanosec. rise time pulses / USE: clock and pulse test signal generation / $1000 to $2200 / T11.1

Datapulse Inc., *a /Model 104 10 mc Pulse Generator / DESCR: ±40v into 50Ω pulses at 10 nanosec. rise time, rep. rate to 10 mc, duration 10 nanosec. -- 500 μ sec., delay 20 nanosec. -- 10 millisec. / USE: clock and signal pulse tests, magnetic device testing / $1790 / T11.1

Delco Radio Div., General Motors Corp.

Digital Service Labs

DIT-MCO, Inc., Electronics Div.

Electro-Mec Instrument Corp., 47-51 33rd St., Long Island City 1, N. Y. / goniometers / DESCR: angle measuring fixture for precise measuring and testing of potentiometers, synchros and similar rotary electronic components / $375 to $410; specials on quotation / T11.1

General Dynamics/Astronautics a Div. of General Dynamics Corp.

Harman-Kardon Inc., Data Systems Div. -- see C26

Hathaway Instruments Inc.

The A. W. Haydon Co. -- see T11.3

Hewlett-Packard Co., 1501 Page Mill Rd. Palo Alto, Calif. / oscilloscopes / DESCR: models from dc to 100 k to dc to 40 mc. sampling oscilloscope to 1000 mc. Some with dual trace, delayed sweep, X-Y output for recording / USE: viewing measuring waveforms, rise and decay time, time interval, etc. / $475 to $3500 / T11.1

Imm Industries

Kay Electric Co.

Litton Systems, Inc., Guidance and Control Systems Div.

Maxon Electronics Corp.

Midwestern Instruments, Inc., 41st and Sheridan Rd., P. O. Box 7509, Tulsa 18, Okla. / recording oscillographs / DESCR: photographic, direct process, 6 KC flat frequency response, up to 50 channels, record speed to 170 ips, internal programming available / USE: test instrumentation and recording / $1500 to $9000 / T11.1

Minneapolis-Honeywell Regulator Co., Aeronautical Div., Florida Facility

Non-Linear Systems, Inc.

Philco Corp., a subsidiary of Ford Motor Co., Computer Div.

Radiation Incorporated

Sunshine Scientific Instruments -- see A7

Trio Laboratories, Inc.

Univac Military Operations of Sperry Rand Corp.

Westgate Laboratory, Inc.

Wiancko Engineering Co.

T11.2 THIN-FILMS, MAGNETIC

Servomechanisms/Inc., 200 N. Aviation Blvd., El Segundo, Calif. / computer elements / DESCR: microminiaturized thin film type / USE: computers, logic and memory elements / - / T11.2

Texas Instruments Inc. -- see C26

T11.3 TIMING DEVICES

Amplifier Corp. of America

Bowmar Instrument Corp., 8000 Bluffton Rd., Ft. Wayne, Ind. / Miniature Events Indicator 1989 / DESCR: electrically operated unit reads digitally to 9999 events, operates to 10 counts/second. Mounts to panel with flange. Measures .670" diameter, 1.680" long / USE: equipment testing reliability studies, periodic maintenance / $70 each* to $875 each* (*100 lots) / T11.3

Bowmar Instrument Corp., *a / Elapsed Time Indicator 1440 / DESCR: time indication to 9999 hours, readable to 6 feet away. Utilizes digital counter in .670" diameter window, instead of "wrist watch" presentation. AC and DC types available / USE: records operating time for all equipment types / $55 each* to $60 each* (*100 lots) / T11.3

Chrono-log Corp., 2583 W. Chester Pike, Broomall, Pa. / internal computer clock systems / DESCR: enters time and date into computer memory under program control for automatic job billing and automatic monitor programs. Available for 709, 7090, Burroughs 220, others / - / $735 to $1500 / T11.3

Computer Equipment Corporation

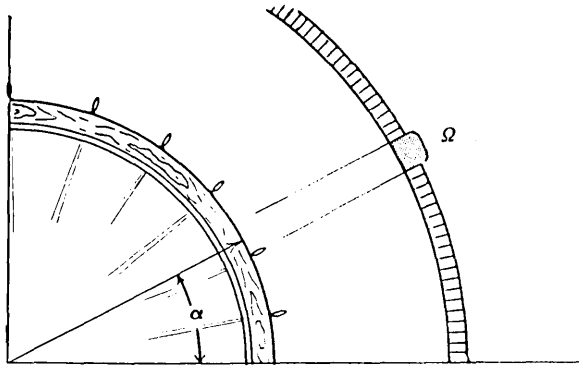
Electronic Counters, Inc. -- see C54

Giannini Controls Corp.

Harman-Kardon Inc., Data Systems Div. -- see C26

The A. W. Haydon Co., 232 N. Elm St., Waterbury 20, Conn. / electromechanical, electronic timing devices, timing motors, automated test equipment / DESCR: timers, events counters, stepping devices. 3/4 oz. time and events indicators, digital readout. Transistorized and binary crystal-controlled electronic timers. Portable and console electronic system analyzers / USE: to control and test operation of military, commercial equipment and systems / - / T11.3

Telex/Aemco, a Div. of Telex, Inc.



Products and Services

T11A. TRANSDUCERS

The Bristol Co.

Bytrex Corp., 50 Hunt St., Newton 58, Mass. / transducers / DESCR: semiconductor strain gage pressure, load, force transducers / - / - / T11A

Consolidated Controls Corp.

Consolidated Electrodynamics Corp.

Electro Products Laboratories, Inc.

Fairchild Controls Corp., 225 Park Ave., Hicksville, N. Y. / 3S-G family -- silicon semiconductor strain-gage pressure transducers / DESCR: piezoresistive sensing elements; d.c. signal as high as 5v.; has infinite resolution, temperature compensation, highest repeatability. Auxiliary modules: internal calibration, supply voltage regulation; follower output for flow output impedance / USE: for applications where size and weight are not critical considerations / custom depending on quantity / T11A

Fairchild Controls Corp., *a / potentiometric pressure transducers / DESCR: rugged, precision instrument for measuring absolute, gauge or differential pressures of corrosive and non-corrosive gaseous or liquid media, with static or dynamic inputs / USE: for measuring altitude, airspeed, pressure ratio and Mach number / custom depending on quantity / T11A

Giannini Controls Corp.

Gulton Industries, Inc.

Hagan Chemicals & Controls Inc.

Hewlett-Packard Co.

Hydropoise Inc., 230 S. Wells Fargo Ave., Scottsdale, Ariz. / turbine flow transducers / DESCR: transducer inserted in fluid line produces pulses proportional to flow. 0.5 to 12 inches diameter, cover flows 1.0 to 10,000 GPM. Associated readout, control equipment / USE: for indicating, recording and control of liquids and gases / $335 to $6500 / T11A

Industrial Nucleonics Corp. -- see A6

International Resistance Co.

Pacific Magnetic Corp., Electronic Center, Romoland, Calif. / magnetic speed transformer / DESCR: special designs to meet customer requirements. Transforms mechanical motion into AC with frequency proportional to speed / USE: to register count of rpm of a rotating device and speed of moving objects / $25 to $300 / T11A

Sanborn Company. 175 Wyman St., Waltham 54, Mass. / transducers / DESCR: velocity (linear), DCDT displacement, pressure, displacement probes, transducer converters (permit use of AC transducers with DC or 115V, 60 CPS, AC), linear motion displacement / - / $15 to $200 / T11A

Servomechanisms/Inc.

Wiancko Engineering Co., 255 N. Halstead Ave., Pasadena, Calif / pressure transducers / DESCR: high-level, 0-5 vdc, output pressure tranducer with multipoint simulated calibration. Weight eight ounces. Gage, differential and absolute types.

Series P2-3000 / USE: telemetry and test stand instrumentation / $665 to $1500 / T11A
Winsco Instruments & Controls Co., 1533 26th St., Santa Monica, Calif. / temperature transducers / DESCR: resistance types; range -450 to -2000°F / - / varies / T11A

T12. TRANSFORMERS

Airpax Electronics, Inc.
Aladdin Electronics, Div. of Aladdin Industries, Inc.
Amplifier Corp. of America
Microtran Co., Inc.
Pacific Magnetic Corp., Electronic Center, Romoland, Calif. / transformers / DESCR: industrial and military types custom designed from miniature to 2KVA. Specialize in epoxy molded utilizing slush molding process; brings tooling costs down to a minimum / USE: AF and power applications / 75¢ to $350 / T12
Polyphase Instrument Co. -- see D3
Servomechanisms/Inc., 200 N. Aviation Blvd., El Segundo, Calif. / transformers / DESCR: miniature transformers with weldable or solderable leads / USE: electronic circuits / - / T12
Sola Electric Co., 1717 Busse Rd., Elk Grove Village, Ill. / constant voltage transformers / DESCR: Sola constant voltage transformers are static-magnetic voltage regulators / USE: in computing systems, analog computers, data processing equipment, digital computers, and computational equipment / $15 to $900 / T12
Superex Electronics Corp.
Telex/Ballastran, 1701 N. Calhoun St. Fort Wayne 7, Ind. / specialty transformers / DESCR: design, development and production of specialty transformers, including power, saturable core devices, and pulse. Engineering assistance if required / - / - / T12

T13. TRANSFORMERS, PULSE

Aladdin Electronics, Div. of Aladdin Industries, Inc.
El-Rad Manufacturing Co., 4300 N. California Ave., Chicago 18, Ill. / pulse transformers / DESCR: all types for coupling and blocking oscillator applications. Power levels from ½ watt/microsec to 10 watt/microsecond / USE: as above / $1, up / T13
Ferroxcube Corp. of America
Polyphase Instrument Co. -- see D3
Sprague Electric Co.
Technitrol, Inc.
Telex/Ballastran -- see T12
Valor Instruments, Inc., 13214 Crenshaw Blvd., Gardena, Calif. / pulse transformers / DESCR: miniature / USE: pulse coupling, pulse inverting and blocking oscillator applications / $1 to $25 / T13

T14. TRANSISTORS

Calvert Electronics Inc.
Clevite Transistor
DI/AN Controls, Inc.
Fairchild Semiconductor, 545 Whisman Rd., Mountain View, Calif. / transistors / planar and planar-epitaxial transistors. High-speed non-saturating, high-speed saturating switching types of transistors / USE: components for logic circuits: switches, gates, flip-flops, etc. / varies / T14
General Instrument Corp., Semiconductor Div.
Hughes Semiconductor Division
Motorola Semiconductor Products Inc. -- see S2
Radio Corp. of America, Semiconductor and Materials Div.
Raytheon Co., Semiconductor Div.
Sanders Associates, Inc.
Sperry Semiconductor Div. of Sperry Rand Corp.
Sprague Electric Co.
Tech Serv Inc.
Texas Instruments Inc., P. O. Box 5012, Dallas 22, Texas / transistors / DESCR: complete spectrum of PNP-NPN germanium and silicon including field-effect, darlington, unijunction and avalanche; covering 1/100,000 to 25 amps and frequencies to 2,000,000,000 cps. / USE: high and low speed logic; tape, disc, drum, core, and thin film drivers; photo, tape and memory read amplifiers; power supplies; punch and printer drivers; analog to digital and digital to analog converters / - / T14
Texas Instruments Inc. -- see T15, T16

T15. TRANSISTORS, GERMANIUM

Clevite Transistor
Delco Radio Div., General Motors Corp.
General Instruments Corp., Semiconductor Div.
Motorola Semiconductor Products Inc. -- see S2
Philco Corp., Lansdale Div., a subsidiary of Ford Motor Co.
Radio Corp. of America, Semiconductor and Materials Div.
Raytheon Co., Semiconductor Div.
Sylvania Electric Products Inc., Semiconductor Div. -- see D7
Texas Instruments Inc., P. O. Box 5012, Dallas 22, Texas / germanium transistors / DESCR: complete line of PNP and NPN, alloy, mesa, and epitaxial transistors. Logic units with total times under 1/200,000,000 seconds through 25 amp power units / USE: high and low speed logic; tape, disc, drum, core, and thin film drivers; photo, tape and memory read amplifiers; power supplies; punch and printer drivers; analog to digital and digital to analog converters / - / T15
Texas Instruments Inc., Semiconductor Components Div. -- see C26

T16. TRANSISTORS, SILICON

Clevite Transistor
Delco Radio Div., General Motors Corp.
Fairchild Semiconductor -- see T14
General Instruments Corp., Semiconductor Div.
Hughes Semiconductor Division
Motorola Semiconductor Products Inc. -- see S2
Philco Corp., Lansdale Div., a subsidiary of Ford Motor Co.
Radio Corp. of America, Semiconductor and Materials Div.
Raytheon Co., Semiconductor Div.
Sylvania Electric Products Inc., Semiconductor Div. -- see D7
Texas Instruments Inc., P. O. Box 5012, Dallas 22, Texas / silicon transistors / DESCR: PNP-NPN mesa, planar, epitaxial, grown junction, field effect, darlington, unijunction and avalanche; including 1 amp thin-film drivers with rise times under 1/20,000,000 second / USE: high and low speed logic; tape, disc, drum, core and thin-film drivers; photo, tape and memory read amplifiers; power supplies; punch and printer drivers; analog to digital and digital to analog converters / - / T16
Texas Instruments Inc., Semiconductor Components Div. -- see C26
Transitron Electronic Sales Corp.

T17. TRANSLATING EQUIPMENT

Beckman Instruments, Inc.
Benson-Lehner Corp.
Computer Concepts, Inc.
Control Data Corporation
General Dynamics/Astronautics a Div. of General Dynamics Corp.
LFE Electronics, Systems Division, a Div. of Laboratory for Electronics, Inc. -- see I2
Radio Corporation of America, Electronic Data Processing
Soroban Engineering, Inc.
Trak Electronics Co., Inc., 59 Danbury Rd., Wilton, Conn. / TWX-to-CCIT Translators / DESCR: allow two way customer to customer Telex calls between foreign and domestic stations. Operate with standard teletype equipment / - / $16,000 / T17

T18. TYPEWRITERS, ELECTRIC, CONTROLLED

Benson-Lehner Corp.
Friden, Inc., 2350 Washington Ave., San Leandro, Calif. / Friden Flexowriter Automatic Writing Machine / DESCR: operates under control of punched tape, edge-punched cards or tab cards; produces documents; punches new tape or cards for further processing / USE: general data processing, computer input/output, numerical control, etc. / - / T18
Friden, Inc., *a / Friden Numerical Control Flexowriter / DESCR: produces and verifies punched paper tape for numerical control of machine tools / USE: numerical control tape preparation / - / T18
Friden, Inc., *a / Friden Flexowriter SR Series / DESCR: remotely-controlled machines which prepare related documents (e.g., check registers) simultaneously with preparation of original document (e.g., vouchers) on the master Flexowriter. Several models available / USE: document preparation / - / T18
Friden, Inc., *a / Friden CTB Computyper / DESCR: prepares documents that require writing and computing. All data (numeric and alphabetic) entered from standard electric typewriter keyboard. Automatic computing / USE: billing and other writing-computing applications / - / T18
Friden, Inc., *a / Friden BCP Computyper / DESCR: prepares documents that require writing and computing, with tab card output. All data (numeric and alphabetic) entered from standard electric typewriter keyboard. Automatic computing / USE: billing and other data processing / - / T18
International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N. Y. / IBM 824 Typewriter Card Punch (with non-printing card punch) and IBM 826 Typewriter Card Punch (with printing card punch) / DESCR: each machine has two units: IBM electric typewriter and printing (826) or non-printing (824) card punch / USE: prepares punched cards for accounting use as an automatic by-product of typing operations / Monthly rental $95 to $145; selling price $3700 to $7400. All prices exclusive of tax / T18
International Business Machines Corp., Data Processing Div., *a / IBM 870 Document Writing System / DESCR: system allows operator to produce business information simultaneously in three forms: typewritten copy, punched cards and paper tape. Input may be from punched cards, punched paper tape and keyboard / USE: for creating documents in three forms for accounting and computing use / Monthly rental $145 to $450; selling price $6300 and up. All prices exclusive of tax / T18
LFE Electronics, Systems Division, A Div. of Laboratory For Electronics, Inc. -- see I2
N. V. Electrologica
Soroban Engineering, Inc.
Underwood Corp.

T19. TUBES, ELECTRONIC

Amperex Electronic Corp.
Calvert Electronics Inc.
Ferranti Electric, Inc.
General Electric Co., Receiving Tube Dept., 316 East Ninth St., Owensboro, Ky. / receiving tubes and thermionic devices / DESCR: receiving tubes: glass and metal octal, miniature, sub-miniature, industrial, planar type metal-ceramic miniature, microminiature; photoconductive tubes and cells; thermionic integrated micromodule circuits; reed relay switches / USE: in electronics equipment / 50¢ to $100 / T19
Nucleonic Products Co., Inc.
Raytheon Co., Industrial Components Div.
Thermosen, Inc., 375 Fairfield Ave., Stamford, Conn. / special purpose vacuum tubes / DESCR: temperature limited diodes; true rms sensing of a-c waveforms independent of frequency or distortion / USE: reference devices in power supplies and voltage regulators. Also as noise sources for RFI testing and as reference device in special meters / $4.40 to $15 / T19
Westinghouse Electric Corp., Electronic Tube Div., Box 284, Elmira, N. Y. / electronic tubes/ DESCR: complete line of tubes including receiving and special purpose, image pick up and storage display tubes, cathode ray display, multiplier phototubes, electrical-electrical storage tubes / USE: electronic information transmittal and visual pick up and display devices / $1 to $7500 / T19

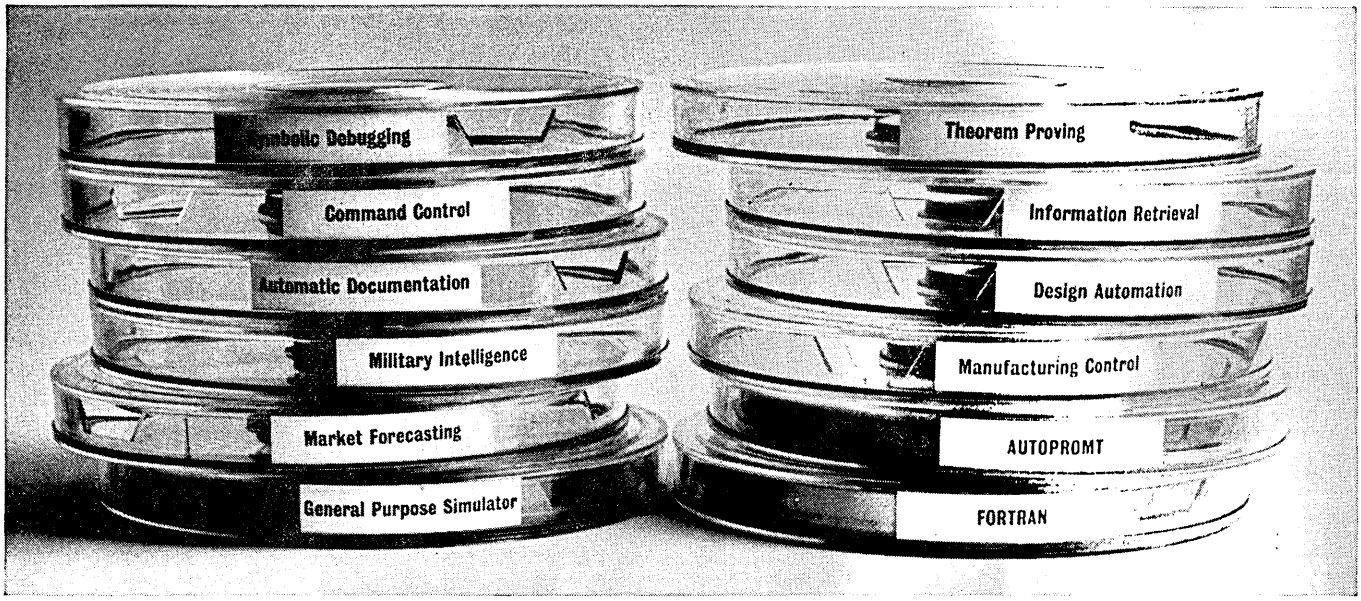
V1. VISUAL OUTPUT DEVICES

Anadex Instruments Inc.
Beckman Instruments, Inc., Berkeley Div.
The Bendix Corp., Eclipse-Pioneer Div.
Budd Electronics
Control Data Corporation
Electro Instruments, Inc. -- see A3
The Electro Nuclear Systems Corp.
Ferranti-Packard Electric Ltd., Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ontario, Can. / magnetic matrix modules / DESCR: range of self-encoding, reflective, character-forming display modules; switch rapidly with two millisecond pulse; magnetic memory technique holds display without power / USE: arrival/departure display; military status displays / - / V1
General Dynamics/Electronics
Genisco, Inc.
GPL Div. - General Precision, Inc., Pleasantville, N. Y. / GPL Microteliviser / DESCR: provides local or remote magnification (up to 300X) and viewing of microfilm, roll, film, or solid objects / - / - / V1
GPL Div. - General Precision, Inc., *a / industrial/commercial television / DESCR: standard and high resolution equipment; banks, schools, plants, broadcast studios, under water, pipeviewing, wide-angle / USE: industrial and commercial applications / - / V1
Image Instruments, Inc.
Information Products Corp. -- see I3
International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N. Y. / IBM 740/780 Cathode Ray Tube Recorder / DESCR: electronic output device for 704, 709, provides an output for recording data points on the faces of two television-like tubes at 7,000 a second / USE: scientific, engineering and design problems / Monthly rental $2850; selling price $112,000. All prices exclusive of tax / V1
LFE Electronics, Systems Division, a Div. of Laboratory For Electronics, Inc. -- see I2
Litton Systems Inc., Data Systems Div.
Midwestern Instruments, Inc. -- see C3A
Monroe Industries, Inc., 934 36th St., S.E., Grand Rapids 8, Mich. / illuminated components for visual displays / DESCR: lighted plastic pointers, dials, bezels, spheres and counter wheels. Precision machining, marking, engraving; injection molding. 3-dimensional engraving. Lackon® edge-lighted instrument panels. Precision silk screening / USE: illuminated instrument read-out displays / - / V1
Non-Linear Systems, Inc.
The Perkin-Elmer Corp.
Philco Corp., a subsidiary of Ford Motor Co., Computer Div.
Radiation Incorporated
Strand Engineering Co., 7300 Huron River Dr., Dexter, Mich. / Datronics LG-9 / DESCR: generates straight lines on CRT upon digital specification of end points and constant writing rate with digital commands for intensity modulation. Full scale speed: 40 μsec nominal / USE: as a display system component / $8000 to $15,000 / V1

(Please turn to page 156)

IBM extends the range of programming

Are you interested in exploring the capabilities of the computer?



Some of the most important programming developments are taking place now at IBM.

The broad scope of work underway at IBM offers important advantages to members of our professional programming staff. They have the opportunity to work on projects taken from the broad range of programming. They are face to face with the frontiers of applied, scientific and administrative programming. For example, what advanced programming techniques interest you the most: multiprogramming systems . . . compilers . . . problem-oriented languages and processors? Programmers at IBM are exploring these techniques and many more.

Here are some other areas you might work in if you were a programmer at IBM: theory of computing . . . artificial intelligence . . . simulation systems . . . scheduling methodology . . . communications control systems . . . space systems . . . and the design of total computer systems.

At IBM, you would find yourself in the kind of atmosphere that encourages accomplishment. You would help to design new hardware systems. You would work side by side with men of eminent professional stature: scientists, engineers and mathematicians who pioneer in the research and development that make new computing systems possible.

What's more, you would be able to give your projects the time they deserve. Time for thinking. Time for achievement.

The scope of programming at IBM stimulates professional growth. It offers possibilities which merit serious consideration whether you are a master of the skills of programming or a relative newcomer to the field. Salaries and benefits at IBM are excellent. If you have experience in scientific or commercial programming, we would like to acquaint you with the wide range of responsible positions on our programming staff.

Programming facilities are located in San Jose, Calif.; Washington, D. C., area; Lexington, Kentucky; Rochester, Minnesota; Omaha, Nebraska; and New York, Endicott, Kingston, Owego, Poughkeepsie and Yorktown Heights, New York. IBM is an Equal Opportunity Employer.

For further details, please write, outlining your background and interests, to: Manager of Professional Employment, IBM Corporation, Dept. 539S, 590 Madison Ave., New York 22, N.Y.

SURVEY OF

COMPUTING SERVICES

Following is a survey of computing services.

The survey form asked for:

1. Brief description of the quantity and types of computing machines and equipment which you have?

2. Brief description of the types of computing problems which you specialize in?

3. Number of employees?
4. Year established?
5. Any remarks?

Filled in by Title
Organization
Address

For school, college, and university computing services, see the section of the directory "School, College, and University Computer Centers".

See also in the "Roster of Products and Services", entries under the heading "C27. Computing Services".

Each full entry from an organization that replied to the survey is in the form of: Name and address of computing service / Equipment / Problems specialized in / Size(number of employees) Established(year of establishment). Other entries should be self-explanatory.

The abbreviations used include the following:

- Ss - Small size, up to 50 employees;
- Ms - Medium size, 50 to 500 employees;
- Ls - Large size, over 500 employees;
- Se - established a short time ago, 1951 or later;
- Me - established a "medium" time ago, 1931 to 1950;
- Le - long established organization, 1930 or earlier;
- *C - "Checked" by the organization; "62" means "in 1962", etc.
- G60 - "information gathered in 1960 but not checked by the organization"

All additions, corrections, and comments will be welcome.

Actuarial Computing Service, Inc., 1389 Peachtree St., N.E., Atlanta 9, Ga. / EQPM: - / PROB: specializing in computing applications for the insurance industry / Ss(7) Se(1956) / G60

Admiralty Research Laboratory, Queens Rd., Teddington, Middlesex, England / EQPM: Ferranti Pegasus / PROB: - / G62

Aeronutronic, A Div. of Ford Motor Co., Mathematics and Computing, Research Operations, Ford Rd., Newport Beach, Calif. / EQPM: IBM 709 (IBM 7090 on order for delivery in 1961) / PROB: missile trajectories, rocket motor performance, aerothermodynamic heating, ordinary and partial differential equations, business data processing / Ms(60, mathematical services personnel) Se(1956) / G60

ALWAC Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif. / EQPM: ALWAC III-E general purpose electronic digital computer, a drum storage serial binary machine with 8192 words main memory, 128 words fast access, completely alpha-numeric; decimal input-output equipment with 80-column card in and out; high speed paper tape in and out; and two magnetic tape units / PROB: general service bureau applications including accounting, numerical research, engineering, cataloging / Ms(60) Se (1952) / *C 61

American Data Services, Inc., 2221 S.W. 5th Ave., Portland 1, Ore. / EQPM: Burroughs 205 EDP machine system, 4 magnetic tapes, paper tape, card in and out, on-line printer, typewriter out. Also, complement of IBM punch card equipment / PROB: engineering, commercial and scientific / Ss(20) Se(1959) / *C 61

American Machine & Foundry Co., Digital Computer Facility, 140 Greenwich Ave., Greenwich, Conn. / EQPM: IBM 650 magnetic drum machine with alphabetic and special character device; IBM 653 floating decimal arithmetic unit and 3 index registers; digital plotter (10-½" x 17"), plus standard peripheral equipment / PROB: general engineering calculations; shock and vibration; nuclear reactor, electrical, and petroleum engineering; data processing / Ss(6) Se(1956) / *C 62

Armour Research Foundation, 10 West 35 St., Chicago 16, Ill. / EQPM: UNIVAC 1105 computer and off-line high-speed printer: 8,192 words core storage, 32,768 words magnetic drum storage, 17 magnetic tape units buffered from central computer / PROB: engineering and scientific problem-solving, programming-system development, management-science calculations / Ls(1250) Me(1936) / G60

Association of Data Processing Service Organizations, 1000 Highland, Abington, Pa. / EQPM: - / PROB: service center management / Ss(2) Se (1960) / *C 62

Automated Accounting Center of Conn., 7 Field St., Waterbury 20, Conn. / EQPM: Bendix G-15D general purpose computer, National Cash Register Electronic Magnetic Ink Reader-Sorter coupled to and under control of G-15D, 2 magnetic tape units with search and erase/rewrite feature, AN-1 paper tape reader and punch (5, 6, 7 or 8 channel tape), off-line Flexowriters, Automated Postronics for ledger posting, magnetic ink printing equipment and paper tape to magnetic ink conversion equipment / PROB: commercial data processing including accounting functions, inventory and production control, payroll, demand deposit accounting, engineering, and miscellaneous applications / Ss(7) Se(1959) / *C 62

Bell Aerosystems Co., P.O. Box 1, Buffalo 5, N.Y. / EQPM: IBM 7090 computer; 2 IBM 1401's; IBM punch card equipment / PROB: engineering calculations, payroll, production control, budgetary control, inventory and accounts payable / Ms(90 in Data Center) Me(1956) / *C 62

Bell Telephone Manufacturing Co., Automation Systems Division, Berkenrodelei, 33 Hoboken Antwerp, Belgium / EQPM: STANTEC computing system / PROB: - / G62

Bendix Computer Div. of the Bendix Corp., 5630 Arbor Vitae, Los Angeles 45, Calif. / EQPM: not generally considered a service bureau, but do market time on Bendix G-15's at factory-marketing headquarters / PROB: no specialty, programming services available / Ls(700) Se (1952; computer div.) / *C 62

Bendix Systems Division, 3300 Plymouth Rd., Ann Arbor, Mich. / EQPM: Bendix G-20 large scale digital computer, 32,000 word case storage, 8 magnetic tape stations, high speed printer and other off-line capabilities. High speed analog computer. COED II Digital Display and control console. Punched card processing facilities. PERT, linear programming, operation analyses, other management services and a FORTRAN compiler are available / PROB: engineering, satellite and missile simulations, data processing and reduction; linear programming and PERT, etc. / Ms(55 computer related employees of 1200 Bendix Systems Div. personnel) Se (1956) / *C 62

Berkeley Division, Beckman Instruments, Richmond Computation Center, 2200 Wright Ave., Richmond, Calif. / EQPM: 50-amplifier general analog computer / PROB: research and computation techniques, general purpose problem solving / Ss(5) Se(1956) / *C 62

Ernest E. Blanche & Associates, Inc., 10335 Kensington Pkwy., Kensington, Md. / EQPM: IBM 1401 System with magnetic tape and punch card input and output (4 tape drives), high speed printer; 38 IBM punch card machines; high-speed microfilm camera (18-1 and 30-1 reduction; 3 microfilm readers (1-18 and 1-30 magnification) / PROB: statistical analysis, correlation analysis, analysis of variance, frequency distributions, probability, forecasting; accounting - large volumes; traffic analysis - origin-destination studies, projection of traffic, highway and transit loading; engineering - cut and fill, highway design, highway construction; mathematical computations / Ms(89) Se(1955) / *C 62

Booz-Allen Applied Research, Inc., 4241 Fulton Pkwy, Cleveland 9, Ohio / EQPM: access to general purpose digital and analog computers; communication computers; data acquisition, analysis and presentation equipment; control and processing equipment and specialized instrumentation. Services in all technical areas and all phases of scientific consulting from basic research through prototype design, development, and test / PROB: system analyzing, equipment selection, system management, development of detailed software, special purpose circuit design, special purpose equipment design, prototype development and other technical studies / Ls(800) Le(1914) / *C 62

Broadview Research Corp., 1811 Trousdale Dr., Burlingame, Calif. / EQPM: arranged for / PROB: design and implementation of automatic programming systems, including the construction of scientific and business-oriented compilers; symbolic assembly programs; design and implementation of special-purpose, problem-oriented compilers; analysis and programming of scientific problems, including applications in celestial mechanics, photogrammetry, geodesy, civil engineering, and statistical analysis of data from experiments / Ms(80) Se(1951) / G60

Burroughs Corp., Computer Facility, Marketing, 460 Sierra Madre Villa, Pasedena, Calif. / EQPM: Burroughs 220 (10,000 words core, complete punched card and paper tape input-output, 8 magnetic tape units, 25 lines per second high speed printer with 1 magnetic tape unit) / PROB: all types, scientific, data processing, etc. Used by the Marketing Div. for software development, sales promotional demonstrations, and customer training / Ss(8, plus engineers) Se (1954) / *C 62

Canadian Armament Research and Development Establishment, P.O. Box 1427, Quebec, Canada / EQPM: ALWAC III-E / PROB: - / G62

C-E-I-R, Inc., One Farragut Square South, Washington 6, D.C.; Washington Center, 1200 Jefferson Davis Highway, Arlington, Va.; New York Center, 270 Park Ave., New York, N.Y.; Los Angeles Center, 9171 Wilshire Blvd., Beverly Hills, Calif.; Houston Center, 6422 Fannin St., Houston 25, Tex.; Hartford Center, 621 Farmington Ave., Hartford 5, Conn.; San Francisco, Calif.; Boston Center, 330 Stuart St., Boston 16, Mass. / EQPM: Arlington: IBM 7090 and peripheral equipment. New York: IBM 7090 and peripheral equipment. Los Angeles: IBM 7090, CDC 1604. Houston: IBM 7090. Hartford: RCA 501 and peripheral equipment. San Francisco: IBM 7090. Boston: IBM 7090 and peripheral equipment / PROB: linear programming, mathematical model building, operations research, military command and control systems, war gaming, information storage and retrieval, weapons systems analysis, space vehicle trajectories, transportation optimization, production scheduling, management decision-making systems, business strategy games, sampling and statistical design, site selection studies, financial analysis, marketing research, process-analysis and inter-industry analysis, application of Monte Carlo methods, matrix calculations, engineering problems, reliability and quality-

control programs, design of experiments and field tests, engineering and industrial research, electronics and communications, radio-spectrum utilization, value engineering, etc. / Ms (300) Se (1954) / *C 61

Clary Corp., Computer Div., 408 Junipero St., San Gabriel, Calif. / EQPM: Clary DE-60 digital computer, operator oriented console, subroutine cartridges and automatic program control unit / PROB: numerical problems whose programming time on a large scale computer is at least five times greater than the computation time; preliminary and checkcase computations that become tedious on a rotary calculator / Ms Se (1958) / *C 62

Collins Radio Co., Information & Science Center and Communication & Data Processing Div., 19700 San Joaquin Rd., Newport Beach, Calif. / EQPM: -- / PROB: computing services / Ls (1200) Me (1933) / G60

Compumatix, Inc., 440 So. Brentwood Blvd., St. Louis 5, Mo. / EQPM: LGP-30, IBM 702, IBM 705 / PROB: automatic data processing, systems studies and operations research studies; computing equipment and programming staff available / Ss (10) Se (1956) / G60

Computech, Ind., 477 Madison Ave., New York 22, N.Y. / EQPM: tape IBM 1401 with ancillary equipment / PROB: scientific and commercial data processing, computer programming and computer processing services as well as methods system design, market research / Ss (40) Se (1957) / *C 62

Computer Advisors to Management (CAM), Division of Statistical Tabulating Corp., 104 South Michigan Ave., Chicago 3, Ill. / EQPM: 14 data processing and computer centers, nationwide, containing IBM 1400-series card tape systems plus peripheral equipment and conventional punch card tabulating data processing machines / PROB: professional counseling for business, science, and government in the economic evaluation and application of computer systems for management information and control / Ls (5000) Se (1933) / *C 62

Computer Data Processing Company, Detroit, Mich. / EQPM: IBM 650 and peripheral equipment / PROB: all types; staffed with mathematicians, engineers and accountants / Ss (7) Se (1957) / *C 61

Computer Engineering Associates, Inc., 350 N. Halstead, Pasadena, Calif. / EQPM: Direct Analog Computer, built by Computer Engineering Associates, an affiliate of Susquehanna Sciences, Inc., using electronic amplifiers and passive elements (resistors, capacitors, inductors, and transformers) / PROB: dynamic mechanical and aeroelastic vibration problems; static stress analysis; heat transfer and heat flow problems / Ms (50) Se (1952) / *C 62

Computer Sciences Corp., Palos Verdes, Calif., and New York 22, N.Y. / EQPM: small to large scale computers available; 1107 computer and associated equipment in Los Angeles / PROB: computing, consulting, analysis and programming, and machine computation services; provides contracted analysis, programming and/or machine computation of engineering, scientific and business data processing problems; also feasibility studies for computer choice, staffing and other installation problems / Ms (135) Se (1959) / *C 62

Computer Systems, Inc., Culver Rd., Monmouth Junction, N.J. / EQPM: 5800 Dystac Analog Computer / PROB: rental / Ms (150) Se (1950) / G60

ComputerMat, Inc., 1828 Wilshire Blvd., Los Angeles 57, Calif. / EQPM: IBM 1620 Data Processing System, complete data processing or "self-serve" use / PROB: civil, structural, petroleum and chemical engineering, numerical control, process and systems analysis, operations research, economic analysis, feasibility studies / Ss (7) Se (1960) / *C 62

ComputerMat II, 14827 Ventura Blvd., Sherman Oaks, Calif. / EQPM: IBM 1620 Data Processing System / PROB: civil, structural, petroleum and chemical engineering operations research, economic analysis, feasibility studies, business data processing / Ss (4) Se (1962) / *C 62

Computing Services Division, Elliott Bros., (London) Ltd., Borehamwood, Herts, England / EQPM: 2 National-Elliott 405, 1 Elliott 402F, 1 National-Elliott 803 / PROB: scientific, mathematic and engineering; market survey, statistics, project planning and optimisation; business and clerical data processing, only by arrangement with associates, Data Processing centres, National Cash Register Co., Marylebone Rd, London N.W.1., England / Ms (75) Se (1954) / *C 62

Control Data Corp., 501 Park Ave., Minneapolis 15, Minn. / EQPM: Control Data Model 1604 digital computer, advanced, large scale, solid state; Model 160 digital computer, desk-size, solid state; Model 180 data collector / PROB: business and accounting, engineering, scientific, data processing / Ms (460, computer div.) Se (1957) / G60

Cook Research Laboratories, subdivision of Cook Electric Co., Morton Grove, Ill. / EQPM: Univac Solid State 90 Computer, card input-output and high speed printer / PROB: trajectory calculations; data reduction; many varied scientific problems; inventory control; payroll / Ls (4700) Le (1897) / *C 62

Data Computing Corporation, 229 Baldwin Rd., Hempstead, N.Y. / EQPM: IBM 1401's and peripheral equipment / PROB: business, accounting, engineering and statistical projects / Ms (80) Se (1954) / *C 62

Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / EQPM: Dian 120 computers, 444 summing and integrating amplifiers, 70 multipliers, associated function-generating equipment, recorders and plotting boards / PROB: ordinary and partial differential equations: heat transfer, aircraft guidance and control, nuclear reactor kinetics, process control, simulator design / Ss (12) Se (1955) / *C 62

Douglas Computing Service, Department A52-G318, Douglas Aircraft Company, Inc., 3000 Ocean Park Blvd., Santa Monica, Calif. / EQPM: IBM 650, 704, 1401, and 7090 Computing Systems and peripheral equipment. Remington-Rand Univac File and Solid State Computers, and Univac Electronic Tabulators / PROB: all scientific, engineering, manufacturing, and business problems, handled by rental of machine time / Ls (1000) Se (1959) / *C 61

EAI Computation Center at Los Angeles, Inc., 1500 E. Imperial Highway, El Segundo, Calif. / EQPM: 10 EAI Analog Computers: including 8 Pace 231R computers, 1 model TR-10, 1 model TR-48 (total of 730 amplifiers and associated non-linear equipment). High-speed repetitive operation available on three consoles, i.e., one 120 amp., one 80 amp. (Rep-op), one 100 amp., two 40 amp., two 80 amp. computers / PROB: pneumatic and hydraulic control systems; aircraft, missile and aerospace applications; microwave electronics, petroleum-chemical process control; nuclear reactor simulations; physiological medical applications; water conservation studies; statistical correlation studies; iterative and hybrid applications / Ss(11) Se(1956) / *C 62

Electronic Associates, Inc., P.O. Box 582, Princeton, N.J. / EQPM: 3 model 231-R fully expanded analog computer systems, each equipped with 8-channel rectilinar recorder and 11" x 17" X-Y plotter, one Model TR-10 desk-top transistorized analog computer, 1 repetitive operation excessory for oscilloscope display, 1 prototype HYDAC (Electronic Associates' new Hybrid-Digital-Analog Computer) / PROB: aero-space and weapons systems analysis, industrial process and chemical industries studies relating to the design optimization and analysis of processing engineering problems and related complex engineering problems requiring mathematical formulation and computer solution. Bulletins, rate schedule, and unclassified problem reports available on request / Ss(30) Se(1954) / *C 62

Facts & Figures, Inc., 25 Ann St., New York, N.Y. / EQPM: IBM 1401 / PROB: inventory, unit control, all accounting / Ss(30) Me(1947) / *C 61

Ferranti-Packard Electric Ltd. (Electronics Div.), 16 Industry St., Toronto 15, Canada / EQPM: Ferranti Limited Pegasus Digital Computer; large program library available for this medium-size, digital, general purpose computer / PROB: applications in industry, science and engineering / Ms(400) Le(1913) / G60

GPS Instrument Co., Inc., 180 Needham St., Newton, Mass. / EQPM: compressed timescale analog computer, including statistical and iterative analyzers and programmers. Equipment available includes both non-linearity simulators such as multipliers, function generators, lag units, etc. Available equipment will handle all conventional applications / PROB: statistical and iterative techniques, including automatic control, basic physical phenomena, evaluation of data, expressible by differential and algebraic equations. Specialize in wide bandwidth operation for high dynamic accuracy in compressed timescale computing with ability to read out in real time / Ss(40) Se(1955) / *C 62

IBM World Trade Corporation Data Center, Avda. Pte. Roque Sáenz 933, Buenos Aires, Argentina / EQPM: IBM 650; IBM 1401 with 4 units; complete IBM peripheral equipment / PROB: program courses and conferences on the possible applications for the future use of IBM equipment in Latin America / G62

The I.D.R. Co. (Industrial Data Reduction), 4740 Spruce St., Philadelphia 39, Pa. / EQPM: large scale digital computing equipment. IBM 1401 on premises, other machines used as needed / PROB: full line of data processing. Service from analysis through execution. Publishing industry services a specialty / ?s Se(1961) / *C 62

Ing. f:a Nordisk ADB AB, Fack, Solna 1, Sweden; Subsidiaries: Nordisk ADB, Waerner & Co., Rämistrasse 8, Zürich, Nordisk ADB Deütsche GmbH, Bonner Strasse 117, Dusseldorf, Tyskland Iberica ADB, Torre de Madrid, Madrid 13, Spain / EQPM: Facit EDB 3 computer with 4000 core memory and 8000 drum memory, magnetic type and carosel type. Line plotter, made by Dobbie McInnes (Electronics) Ltd., Scotland / PROB: field data processing in civil engineering, road calculations, and a special department for structure calculations / Ss(25) Se(1959) / *C 62

Institut für Angewandte Physik Abteilung Rechenmaschine, Schloss-Platz 5, Münster (Westfalen) Germany / EQPM: Z 22 electronic computer / PROB: - / G62

Institute for Scientific Information, 33 S. 17th St., Philadelphia 3, Pa. / EQPM: 10 IBM 026 K.P., 8 IBM 956 Ver., 1 IBM 082 Sort. / PROB: scientific information, processing scientific journals, abstracting chemical literature, indexing scientific literature / Ms(65) Se(1958) / *C 62

I/S Datacentralen of 1959, St. Kongensgade 456, Kobenhavn K, Denmark / EQPM: 2 IBM 1401-4K-3/729-2; 1 IBM 7070-10K-6/729-4; input: 80 cols. punched card - magnetic tape; output: magnetic tape-1401 printing or punching; early card read 7070, tape switching device: 7070 up to 8 tapes, floating decimal; 1401 up to 3 tapes / PROB: management consultant services; problem definition; planning; programming; test, etc.; machine operating; quality control; available to all public institutions and to customers outside the state, municipalities and the parish organizations for all sorts of computations / G62

The ITT Data Processing Center, P.O. Box 285, Paramus, N.J. / EQPM: 1 IBM 7090 large computer, 1 IBM 7070 large computer, 4 IBM 1401 medium computers, one 407 tabulator, two 519 reproducers, one 557 interpreter, one 087 collator, two 082 sorters, five 056 verifiers, fourteen 026 keypunches transceivers, 250 programmers and analysts. Control our own IBM 7090 computer with a backup of communications equipment from the whole ITT System / PROB: business data processing, scientific computing, engineering calculations, statistical analysis, programming, systems analysis, 7090, 7070, and 1401 block time, communications, data transmittal / Ms(300) Se(1958) / *C 62

KCS Ltd., 20 Spadina Rd., Toronto 4, Canada, and KCS (Quebec) Ltd., Suite 104, 640 Cathcard St., Montreal, Canada / EQPM: IBM 650, 4 tapes and ancillary equipment / PROB: traffic research; data processing; scientific calculations; linear programming; simulation; etc.; for business, industry and government / Ms(65) Se(1954) / *C 61

Laboratoire de Calcul Numérique du Centre National de la Recherche Scientifique (CNRS), 11, Rue Pierre Curie, Paris, V, France / EQPM: Elliot 403E; Gamma AET Bull, large capacity magnetic drum storage and small rapid access memory; IBM 650, built-in floating point, index registers and magnetic storage; soon to have IBM 704/ PROB: data processing / Ms(55) Se(1957) / *C 61

Land-Air, Inc., Mattern X-Ray Division, 7444 Wilson Ave., Chicago 31, Ill. / EQPM: Bendix G-15D, digital, standard unit. Electronic Associates Model 1631R, analog, 168 amplifier. EAI Model 1100A x-y plotter; 28 servo multipliers; 16 function generators / PROB: complete design of power distribution transformers in range from 1-1/2 to 2000 KVA, 120 volt to 13,200 volt; lens ray-trace program; antenna impedance characteristics; transmission line impedance characteristics. Engineering, research, manufacturing or production problems / Ls(over 500) Me(1949) / *C 61

Ling-Temco-Vought, Box 5003, Dallas 22, Tex. / EQPM: one 2-channel IBM 7090 digital computer, three IBM 1401's, and 800 amplifier analog facility, with auxiliary equipment; Packard-Bell 250 digital computer tied in to analog facility / PROB: aerodynamics, controls, numerical control for machine tools, electrical load flow, flutter analysis, weight accounting, heat transfer, navigational computations, celestial mechanics, manufacturing control, personnel time accounting, and other scientific and accounting applications / Ms(95) Me(1949) / *C 62

Litton Systems, Inc., Guidance and Control Systems Div., 5500 Canoga Ave., Woodland Hills, Calif. / EQPM: one IBM 704 and 1401 with 32K and 8K words core storage respectively. Peripheral equipment: twelve 727 units, sixteen 024, 026 key punches, thirteen 056 verifiers, five 083, 084 sorters, 13 collators, four 519 reproducers, four 523 summary punches, two 548, 557 interpreters, eight 407 tabulators, one 108 statistical sorter and one 604 calculator / PROB: engineering, scientific, business and manufacturing problems. Fortran language programs in present use with ALGOL use started February 1962. Everything from assembly and sorting programs to Monte Carlo statistical programs exist in the Litton library / Ls(Litton Industries, 31,000; Litton Systems, Inc., 7500) Se(1953) / *C 62

Lyndeboro House, 1 Lyndeboro Pl., Boston 16, Mass./ PROB: computation services, programming and EDP consulting in all fields, scientific, statistical and business. Graphic plotting of computer output. Overload programming and unusual problems on a strictly contractual performance bound basis / *C 62

Mathematischer Beratungsdienst, Kleppingstr. 26, Dortmund, Germany / EQPM: electronic computer ELECTROLOGICA X1; 8192 core store memory; 4096 words fixed store; 2 punched tape readers (150 ch/sec); 1 high speed punched tape reader (1000 ch/sec); punched card read and punch unit; 1 high speed paper tape punch (300 ch/sec; CREED); 1 paper tape punch (25 ch/sec); one type-writer / PROB: civil engineering, bridge building; highway engineering, chemical technology; operations research, data processing with punched tape and punched card; engineering, ship building; other mathematical and physical problems / Ss(40) Se(1957) / *C 62

McDonnell Automation Center, division of McDonnell Aircraft Corp., Box 516, St. Louis 66, Mo. / EQPM: IBM 7080, 7090 and eight 1401's; also PACE, CEAC and Analog Computer facilities: desk size computers include two IBM 1620 / PROB: management services including consulting, systems design, programming and data processing in both the administrative and scientific areas / Ms(400) Se(1960) / *C 62

Minneapolis-Honeywell Regulator Co., Electronic Data Processing Div., 60 Walnut St., Wellesley 81, Mass. / EQPM: Honeywell 800 in operation at Wellesley, Mass., and Datamatic 1000's in operation at Brighton and Boston, Mass., on Honeywell Service Bureau assignments. A second Honeywell 800 Service Bureau will be established in August at the Univ. of Southern Calif., Los Angeles. A Honeywell 400 system will be installed at the Wellesley Bureau early in 1962 / PROB: business data processing and scientific computation. Honeywell Service Bureaus at present are not accepting outside work, but are principally engaged in predelivery check-out of customer programs and check-out of Honeywell automatic programming aids / Ms(90) Se(1956) / *C 61

4800 word memory with 2000 card per min. input, 1800 char. per sec. paper tape input and 600 lines per min. printed output. (Both on and off-line systems available) / PROB: data processing for large and small businesses; wiring lists; contract programming for scientific and business applications / Ss(21) Se(1960) / *C 61

National Physical Laboratory, Mathematics Div., Teddington, Middlesex, England / EQPM: DEUCE and ACE / PROB: numerical analysis, applied mathematics, theoretical physics, data processing / Ms(60) Me(1945) / *C 62

Naval Research Establishment, Grove Street, Dartmouth, Nova Scotia, Canada / EQPM: ALWAC III E / PROB: - / * 62

Northrop Corp., Norair Div., Information Processing Center, 1001 E. Broadway, Hawthorne, Cal-

Multnomah Data Processing Center, 430 N.W. 10th Ave., Portland, Ore. / EQPM: IBM 1620-card read-punch, 20K memory, hardware divide; IBM 1401-4- 7330 magnetic tapes, 12K memory, hardware multiply divide, advanced programming, etc. Data processing equipment includes: 2 IBM 407's, 3 sorters, 2 collators, 2 tape-to-card, etc. / PROB: in addition to regular data processing operations, specialize in running engineering, statistical, and management science applications on our computer, using available library programs, modifying them where necessary, or writing new ones / Ss(40) Se(1958) / *C 62

National Bureau of Standards, Computation Laboratory, 415 South Bldg., Washington 25, D.C., successor of the Mathematical Tables Project, New York, 1938, which pioneered in using punched-card equipment for solving scientific problems and preparing mathematical tables / EQPM: IBM 704 with 32,000-word core, 8000-word drum storage, half-word logic. Royal-McBee RPC-4010 central processing unit. RPC-4500 tape-typewriter. Off-line printer. Punched-card peripheral equipment / PROB: problems arising in the physical sciences, engineering, and operations research; numerical experimentation; statistical analysis; preparation of mathematical tables; etc. / Ss(45) Me(1947) / *C 61

The National Cash Register Co., Hawthorne NCR 304 Data Processing Center, 1401 E. El Segundo Blvd., Hawthorne, Calif. / EQPM: National Cash Register Type 304 Data Processing System,

if. / EQPM: Digital: IBM 7090 (second IBM 7090 by 1 November 1962); 3 IBM 1401's (two to have double printers); 3 IBM 7044's on order for mid 1963; 2 IBM 1301's on order for early 1963; 1 IBM 407 with 407 and high-speed plotter; miscellaneous punch card equipment. Analog: (as calculators) 416 d-c operational amplifiers: 20 servo multipliers; 30 channels of electronic multiplication; 4 resolvers; 37 function generators; 8 recorders; 4 special coefficient racks. Analog: (as simulators and model testers) 142 d-c operational amplifiers, 5 recorders. Data Reduction: (for reducing test data) 1 Telereadex miscellaneous other equipment / PROB: all types of digital and analog engineering calculations; simulation and model testing; Manufacturing Control; numerically controlled manufacturing tool tapes and 6 preprocessors; war gaming; operations research; reconnaissance data handling; engineering and scientific research and development; all business data processing including financial, manufacturing, materiel, etc.; integrated management systems supported by integrated data processing / Ms(200) Me(1949) / *C 62

Nuclear Development Corp. of America, 5 New St., White Plains, N.Y. / EQPM: Burroughs 205 data processing machine, 2 magnetic tape units, paper tape input / PROB: nuclear reactor and shielding calculations. Several large scale Monte Carlo codes for neutron simulation studies in various geometrical shields. A code for the numerical solution of the Boltzmann equation in spherically symmetric geometries was conceived, analyzed and coded at NDA. Complete performance of problem analysis, coding, and running of production problems / Ms(276) Me(1948) / *C 61

N.V. Electrologica, Stadhoudersplantsoen 214, The Hague, Netherlands / EQPM: Electrologica X-1; basic unit, memory 12283 words; input: punched tape, punched cards; output: punched tape, punched cards, outputwriter punched card read and punch unit (7200 cards per feed per hour), fast card reader (42000 cards per hour) / PROB: programming, system analyses / G 62

Ontario Dept. of Highways, Downsview, Ontario, Canada / EQPM: IBM 659 - 4000 word memory, 543 input unit; 544 output unit, 4 mag. tapes, I.A.S.; floating point arithmetic, 1 IBM 407; 12 IBM 026 keypunch; 8 IBM 056 verifier, 5 IBM 083 / PROB: traffic studies; minimum route gravity model, traffic assignment; annual average daily traffic prediction from minimum counts, bridge design; aid in general way on request / G 62

George A. Philbrick Researches, Inc., 127 Clarendon St., Boston, Mass. / EQPM: Philbrick K5 Analog Computer System composed of all-speed linear and non-linear computing modules and associated output display equipment / PROB: dynamic analysis of engineering systems / ?s Me(1946) / G 60

Philco Corp., Computer Div., Service Bureau, 3900 Welsh Rd., Willow Grove, Pa.; also Western Computing Center, 3875 Fabian Way, Palo Alto, Calif. / EQPM: Philco 2000: asynchronous operation, parallel logic, transistorized circuit design, fixed word of 48 bits in units of 4,096 to 32,768 words with 10 microsecond access time / PROB: all scientific and commercial applications / Ss(48, in Service Bureau) Se(1958) / *C 62

Quantum, Inc., Lufbury Ave., Wallingford, Conn. / EQPM: IBM 1620 tape with peripheral equipment / PROB: engineering and scientific, management operational reporting and analysis, consulting / Ss(30) Me(1948; computing center, 1960) / *C 61

Rand Corporation, Santa Monica, Calif. / EQPM: Johnniac, IBM 7090 / PROB: linear programming, modelling, scientific computing generally / Ls (1100; 100 in Computer Sciences Dept.) Me(1947) / *C 62

RCA Electronic Data Processing Center, 45 Wall St., New York, N.Y.; Cherry Hill, Delaware Township, Camden 8, N.J.; 1725 K St., N.W., Washington 6, D.C.; 110 N. Wacker Dr., Chicago 6, Ill.; 343 Sansome St., San Francisco, Calif. / EQPM: maximum complement RCA 501 and peripheral equipment / PROB: specific services available for any commercial or government applications, as follows: systems analysis, systems design, programming, machine coding, electronic data processing from source documents to completed results, computer facility design and construction supervision, services of operating personnel, package programs for market forecasting, site selection, attitudinal surveys, economic forecasting / Ms(200) Se(1959) / G 60

Recording & Statistical Corp., 100 Sixth Ave., New York 13, N.Y. / EQPM: Univac No. 1 with peripheral equipment / PROB: fire and casualty insurance; commercial / Ms(214) Le(1910) / *C 62

Reeves Instrument Corp., Roosevelt Field, Garden City, N.Y. / - / - / Ls(1600) Me(1946) / *C 62

Republic Aviation Corp., Missile Systems Division 223 Jericho Turnpike, Mineola, L.I., N.Y. / EQPM: extensive, 200 amplifier analog, computer facility with associated nonlinear equipment available for rental / PROB: facility suitably interconnected for independent small problem solutions or a large simulation. Engineering specialists experienced in large scale guidance and control simulations and other dynamic studies can be retained / Ms(250) Se(1952) / *C61

Saab Aircraft Co., Bureau for Numerical Analysis and Engineering Data Processing, Linkoping, Sweden / EQPM: SARA digital computer / PROB: analysis, programming and machine time services in the fields of science, engineering and data processing / Ls(550) Me(1949) / *C 61

The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N.Y. (and offices in 70 cities) / EQPM: IBM 650, 1401, 7070, 709, 7090, data plotting, MICR sorter-reader and unit record equipment / PROB: data processing, programming, systems analysis, and machine services on a contractual basis for business and scientific problems. Equipment available on an hourly basis / Ls(1600) Me(1932) / *C 61

Southwestern Computing Service, Inc., 910 So. Boston, Tulsa 19, Okla. / EQPM: one Alwac III and one IBM 604 / PROB: process design, heat exchange, inventory control, etc. / Ss(10) Se (1953) / *C 61

Space Services Division, Division of Statistical Tabulating Corp., 104 South Michigan Ave., Chicago 3, Ill. / EQPM: Support Programs for Aerospace Components and Equipment. Logistics, technical writing, provisioning parts breakdown, illustrated parts breakdown, spares documentation; provisioning conferences counseling / PROB: professional counseling for business, science, and government in the economic evaluation and application of computer systems for management information and control / Intimate knowledge of both logistic support specifications (government or manufacturer) and data processing techniques / Ls(5000) Me(1933) *C 62

Space Technology Laboratories, Inc., 2400 E. El Segundo Blvd., El Segundo, Calif. / EQPM: two IBM 7090's and related peripheral equipment plus a special purpose Data Reduction Center and Analog Computation Center / PROB: systems engineering and technical direction of the U.S.A.F. Ballistic Missile Program and related space probe projects / Ls(4400) Se(1954) / *C 61

Statistical Tabulating Corp., 104 South Michigan Ave., Chicago 3, Ill. / EQPM: 14 data processing and computer centers, nationwide, containing IBM 1400 -- series card tape systems plus peripheral equipment and conventional punch card tabulating data processing machines / PROB: administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation. Divisions: Data Processing; TASK FORCE; Computer Advisors to Management; Space Services / Ls(5000) Se(1933) / *C 62

System Development Corp., 2500 Colorado Ave., Santa Monica, Calif. / EQPM: IBM 7090; Philco S-2000; CDC 1604; An/FSQ-7 (SAGE Military Computer); AN/FSQ-32; AN/FSQ-8; Philco 2400; CDC 160A; Bendix G-15; IBM 1401 / PROB: specialize in the design and development of command, control, and management systems for military, governmental, scientific, and educational applications / Ls(4000) Se(1957) / *C 62

Task Force, Division of Statistical Tabulating Corp., 104 South Michigan Ave., Chicago 3, Ill. / EQPM: organizational problem-solving with one or more temporary office personnel in various skill families (data processing and computer operators, programmers, and supervisors; executive and technical; typing and stenographic; bookkeeping and office machines; clerical) for conversions, peak loads, unusual situations, second shift operations, etc. / PROB: administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation / Ls(5000) Se(1933) / *C 62

Technical Advisors, Inc., Municipal Court Bldg., Ann Arbor, Mich. / EQPM: one RPC 4000 with multiple input/output devices / PROB: surveying and civil engineering computations / Ss(13) Se(1958, computations) / *C 62

Telecomputing Services, Inc., 8949 Reseda Blvd., Northridge, Calif. / EQPM: IBM 650, IBM 1401, and IBM 704 computing systems, and peripheral equipment / PROB: data reduction; engineering problems; business data processing; accounts receivable and payable; labor distribution; payroll; inventory control; production scheduling; etc. / Ms(230) Me(1947) / *C 61

Thompson Ramo Wooldridge, Inc., 8433 Fallbrook Ave., Canoga Park, Calif. / EQPM: RW-300 digital control computer, a transistorized computer specifically designed for industrial process control. Television Automatic Sequence Control (TASCON), a digital device for control of television programming and switching. RW-400 "Polymorphic" data processing system. AN/UYK-1, "stored-logic" multiple purpose computer / PROB: all problems requiring a high degree of man-machine interaction; industrial process control; television switching control; traffic control; inventory control, etc., and problems requiring the capabilities of a multiple-purpose computer / Ls(27,000) Le(1901) / *C 61

Traffic Research Corporation, a Div. of KCS Limited, 20 Spadina Road, Toronto 4, Ontario (also Montreal and New York) / EQPM: IBM 7070, 6 tapes and ancillary equipment / PROB: traffic research; data processing; scientific calculations, linear programming; simulation; etc., for business, industry and government / Ms(75) Se(1954) *C 62

U.S. Air Force, Analytical Systems Branch, Data Processing Div., AFASC6F, Hq. USAF, Washington 25, D.C. / EQPM: IBM 7090 / PROB: development of USAF planning and programming documents; analytical computations for management; and requirements computations / Ss(25) Me(1949, under the name: Planning Research Div., Hq. USAF) / *C 61

U.S. Air Force, Digital Computation Branch, Systems Dynamic Analysis Div., Wright-Patterson AFB, Ohio / EQPM: Univac Scientific 1103A, Datatron 204, IBM 7090 / PROB: solution of scientific and engineering problems and related data reduction for USAF research and development programs / Ms(70) Me(1950) / G 60

U.S. Army, Computing Laboratory, Ballistic Research Laboratories, Aberdeen Proving Ground, Md. / EQPM: large-scale, high-speed digital computers: EDVAC (Electronic Discrete Variable Automatic Computer), ORDVAC (Ordnance Variable Automatic Computer), BRLESC (BRL Electronic Scientific Computer), and data reduction equipment / PROB: U.S.Army problems in ballistics, scientific computations / Ms(100) Me(1940) / *C 62

U.S. Dept. of Commerce, Bureau of the Census, Washington 25, D.C. / EQPM: Univac I (2); Univac 1105 (2); Unitypers (2); Remington Rand Buffered High-Speed Printers (2); Card-To-Tape Converter (Remington Rand); FOSDIC (5); IBM 1401 / PROB: statistical data processing: monthly, quarterly, annual surveys; periodic population, industry and trade censuses; service activities for other government agencies / Ms(130) Se(1951) / *C 62

U.S.Naval Weapons Laboratory, Computation and Analysis Lab., Dahlgren, Va. / 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 / Ms(350) Me(1946) / *C 62

U.S. Navy, Aviation Supply Office, Data Processing Division, 700 Robbins Ave., Philadelphia, Pa. / EQPM: two 705's Model III; two 1410's on order, Aug. 1962; five 1401 4 & 8K; one 1405, 109 Electric Accounting Machines, including transceivers / PROB: inventory control, 400,000 stock numbers of Naval Aviation material; Financial Control Reports; cataloging / Ms(250, this division) Me(1941) / *C 62

U.S. Navy, Computation & Analysis Lab., Naval Weapons Lab., Dahlgren, Va. / EQPM: NORC (Naval Ordnance Research Calculator); IBM 7090 systems; Universal data transcriber; IBM 1401 systems; plus auxiliary equipment / PROB: orbits of earth satellites and space vehicles; trajectories of all types of weapons; computer war-gaming; general scientific and engineering problems / Ms(350) Me(1946) / *C 62

U.S. Navy, David Taylor Model Basin, Applied Mathematics Laboratory, Washington 7, D.C. / EQPM: 2 UNIVAC I systems, LARC with 3,000,000 word drum storage and 30,000 word core storage, IBM 7090 with 32,000 word core storage, SC 4020 high-speed microfilm printer plotter, IBM 1401 with 4,000 word storage, EECO Computer Data Format Translator / PROB: principal computing facility for Navy's Bureau of Ships, with problems ranging from mathematical types arising in structural mechanics, hydromechanics, and nuclear reactor design, to logistics and inventory control / Ms Se(1952) / *C 62

Univac Service Centers, Remington Rand Univac Div., Sperry Rand Corp., 315 Park Ave. So., New York 10, N.Y., and 40 Univac Service Centers in large cities / EQPM: whole range of Remington Rand equipment; punched cards, Univac 60, Univac 120, Univac File Computer, solid state 80/90 with tapes, Univac I, II, Univac Scientific, Univac III, Univac Scientific 1103, 1105, 1107 / PROB: all punched card data processing applications; all paper tape and magnetic tape data processing applications; all scientific applications / Ls Le / *C 62

Vought Aeronautics, a division of Chance Vought Corp., Box 5907, Dallas 22, Tex. / EQPM: IBM 704 digital computer and 560 amplifier analog facility, with auxiliary equipment; Packard-Bell 250 digital computer soon to be installed to tie in to analog facility / PROB: aerodynamics, controls, numerical control for machine tools, electrical load flow, flutter analysis, weight accounting, heat transfer, navigational computations, celestial mechanics, manufacturing control, personnel time accounting, and other scientific and accounting applications / Ms(52) Me(1949) / *C 61

Vought Electronics, P.O. Box 1500, Arlington, Tex. / EQPM: IBM 650, 704 / PROB: any / Ls(600) Se(1959) / G 60

Westgate Laboratory, Inc., P. O. Box 63, Yellow Springs, Ohio / EQPM: Remington Rand Univac special purpose digital computer, Flexowriter, NCR 2300 bookkeeping machine, miscellaneous office calculating machines / PROB: cross-correlations; use of computer logic in circuit designs; research and development work in electronics, electro-mechanical and optical equipments / Ms(55) Se(1956) / *C 62

Westgate Laboratory, Inc., 506 S. High St., Yellow Springs, Ohio / Research, development, prototype, and small lot production in electronics, physics, optics and photography; simulators and missile guidance equipment, digital computing and consulting services, controls, X-Y plotters and vehicle position displays, radio receivers and transmitters, industrial instrumentation, can leak testers, airborne servo systems for cooling of electronic equipment, eye movement cameras, air traffic control instrumentation / RMCa Ms(55) Se(1956) DICc / *C 62

Westinghouse Electric Corp., Advanced Systems Engineering & Analytical Dept., E. Pittsburgh, Pa. / EQPM: digital: IBM 7090 with 32K core, 2 channels, 12 tapes; 1401 Peripheral; Collins Kineplex Tape-to-Tape; transceivers. Analog: Anacom (passive element transient analyzer), electronic differential analyzer, D.C. network calculator / PROB: engineering and scientific: electric utility planning, control systems, electrical and mechanical design and application, nuclear design, management sciences / Ms (80) Me(1948) / *C 61

White Sands Missile Range, Flight Simulation Laboratory, Electro-Mechanical Laboratories, White Sands Missile Range, N.M. / EQPM: digital: IBM 704 with 32,000 word core memory, IBM 1401, IBM 1620, and a magnetic tape digital plotter. Analog: 8 consoles with 800 amplifiers, 90 dual product electronic multipliers, 6 Euler angle transformation computers, 70 servo multipliers, 46 quarter square multipliers, 72 diode function generators, 13 Gaussian noise generators, one Addalink conversion system, and associated peripheral equipment / PROB: analog and digital simulation of rockets and guided missiles, real-time and hybrid simulation, data analysis, systems evaluation, and numerical analysis. Analysis and programming of scientific problems together with related computer services / Ms(100) Se(1955) / *C 62

Wolf Research & Development Corp., 462 Boylston St., Boston 16, Mass. / EQPM: Whirlwind I computer system, Bendix G-15D computer system, with two magnetic tape units, special curve tracing input device, card input equipment, off-line flexowriter and IBM 026 key punch unit / PROB: scientific, engineering, business, industrial, and military applications. Service routines. Data processing / Ms(150) Se(1959) / *C 62

- END -

SURVEY OF CONSULTING SERVICES

Following is a survey of services which provide consulting in the computer field. Many of them also provide computing, and if so, additional description may be found in the "Survey of Computing Services". See also in the "Roster of Products and Services", the headings "C30. Consulting Services", and "P12A. Programming Services".

The survey form asked for:

1. Brief description of the facilities, personnel and capabilities which you have for consulting assistance in the area of computers and data processors?_____
2. Brief description of the types of problems that you specialize in?_____
3. Number of employees?_____
4. Year established?_____
5. Any remarks?_____

Each full entry from an organization that replied to the survey is in the form of: Name and address of consulting service / Facilities / Problems / Size and year of establishment. Other entries should be self-explanatory.

The abbreviations used include the following:

Ss - Small size, up to 50 employees;
Ms - Meduum size, 50 to 500 employees;
Ls - Large size, over 500 employees (number in parentheses is number of employees);
Se - established a short time ago, 1951 or later;
Me - established a medium time ago, 1931 to 1950;
Le - established for a long time, 1930 or earlier (number in parentheses is year establishment);
k2 - See the "Roster of Organizations";
*C - "Checked" by the organization; "62" means "in 1962", etc.

All additions, corrections, and comments will be welcome.

Charles W. Adams Associates, Inc., 142 The Great Road, Bedford, Mass.; 971 S. Los Angeles St., Anaheim, Calif. / Personnel with varied backgrounds and experience in scientific and business data processing, programming, man-machine communications, and development of large-scale utility systems / Feasibility studies; applications of computers to scientific and business problems; technical data handling; design of computer systems to process information from multiple locations; PERT and other management control systems / Ss(30) Se(1959) / *C 62

ADB Institutet, Chalmers University of Technology - k2

Advanced Information Systems Co. (AIS), 3002 Midvale Ave., Los Angeles 34, Calif. / System design, program management and execution, research covering all aspects of data processing with special emphasis on business-type applications, information retrieval, and pioneer computer-based control systems for a wide range of clients / Service to client on use of products and procedures / - k2 / *C 61

Allied Research Associates, Inc., 43 Leon St., Boston 15, Mass. / Research and development services in all phases of the physical sciences including applied mathematics, geophysics, biophysics, materials, physics, electronics, systems engineering, and weapons systems analysis / Technical problems in government and industry / - k2 / *C 61

The American University - EDPL - k2

Aries Corporation, 7722 Morgan Ave., S., Minneapolis 23, Minn.; Washington D.C. office, Fairfax Dr., North Kenmore, Arlington 1, Va. / Programming services, including automatic programming aids, compilers, assembly systems, applications programming and programming research. Programmers are experienced in all phases of programming and softwares preparation, and provide this specialized form of programming service to computer manufacturers and users who prefer not to temporarily staff in this area, or as an additional manpower pool to programming staffs during overload periods. Applications engineering, system synthesis, analysis and evaluation. Computer analysts provide technical link between computer users and hardware or equipment aspects of digital computer systems. Operations analysis, mathematical and statistical support services. Operations Analysis Group for the purpose of applying analytical techniques to the solution of a broad spectrum of problems, both in the military and industrial fields / Programming, applications engineering, operation analysis. Consulting services to industry and government on any problem in these three general areas

consistent with limitations emposed by the number of personnel available / Ss(10) Se(1962) / *C 62

Arkay Engineering, Inc. - k2

Asbjorn Habberstad A/S - k2

Auerbach Electronics Corporation, 1634 Arch St., Philadelphia 3, Pa. / Six-story air-conditioned building at Philadelphia Headquarters housing Systems Engineering, Custom Equipment Development Laboratory, Information Technology Library, and lecture facilities. Product and Market Planning Group in New York offices. Senior scientists, physicists, mathematicians, engineers, psychologists, market research specialists. Capabilities in: pure and applied mathematics; computer system design, analysis, automatic programming; custom equipment design, and development, logic and solid state circuit design, analog and digital on-line and off-line systems; computer evaluations; product and market planning; programmed teaching / Systems engineering: synthesis, design, and evaluation of complex information processing systems, both on-line and off-line; design, preparation and integration of real-time programs for large digital communication and control systems; mathematical analysis. Equipment development: design, development and fabrication of custom equipment for solving complex information, market, and automatic control problems. Product and market planning: market definitions, product analysis, computer comparison studies. Programmed teaching: evaluation and development of training programs, techniques and hardware / Ms(93) Se(1957) / *C 61

Automation Engineers - k2

Automation Management, Inc., 25 Brigham St., Westboro, Mass. / Office and factory facilities and engineering personnel available to carry a project from the original idea through to installation and training of personnel in integrated office systems / Management control problems of all types involving the use of industrial engineering, operations research, as well as data processing and computer skills / Ss(3) Se(1955) / *C 61

Beckman/Berkeley, 2200 Wright Ave., Richmond, Calif. / 50 Amplifier General Purpose Analog Computer / Simulation of electrical, mechanical, thermal, etc. systems, general analog computation, research into applications of analog computation equipment / Ss(5) Se(1956) / *C 62

Ernest E. Blanche & Associates, Inc., 10335 Kensington Parkway, Kensington, Md. / Design of questionnaires, surveys and studies; data processing and analysis of results; design of systems and installation / Opinion surveys, consumer surveys, audience reaction surveys, operations research, department store operations / Ms(89) Se(1955) / *C 62

Bonner & Moore Associates, Inc., 6910 Fannin, Houston 25, Tex. / Staff divided into: operations research including management consultation; programming systems; and dynamic analysis of processes and computer process control. Senior professional people with experience in: econometrics, mathematics, control theory, chemical, mechanical, nuclear and industrial engineering, and digital/analog computer technology / Simulation of physical and corporate systems; economic optimization techniques and applications; mathematical methods research; design of data processing systems; translators, compilers, and problem-oriented computer languages; and development of process control models and the design of computer control installations. Proprietary linear programming and general data reduction program systems for several machines / Ss(17) Se(1956) / *C 62

Booz · Allen Applied Research, Inc., 4241 Fulton Pkwy, Cleveland 9, Ohio / Staff of approximately 800 people, of whom some 600 are professional personnel. Among these are specialists in all technical areas - including some EDP specialists. These include specialists in general purpose digital and analogue computers; communication computers; data acquisition, analysis and presentation equipment; control and processing equipment and specialized instrumentation / System analyzing, equipment selection, system management, development of detail soft ware, special purpose circuit design, special purpose equipment design, prototype development and other technical studies. All phases of scientific consulting from basic research through prototype design, development and test / Ls(800) Le(1914) / *C 62

Booz, Allen & Hamilton, Inc., 135 So. La Salle St., Chicago 3, Ill. Also offices in Washington D. C., New York, Detroit, Cleveland, Los Angeles, San Francisco / Management consultants / Technical services in electronic and automatic data processing for totally integrated management controls systems for industry, commerce, government and institutions. Used by top management in evaluating, planning, designing and implementing data processing systems for business and scientific purposes / Ms Le(1914) / *C 62

C-E-I-R, Inc. - k2

C G Electronics Corp. - k2

Chrono-log Corp., 2583 West Chester Pike, Broomall, Pa. / - / Process control applications and systems; real-time computer control for both industrial and military applications; technical writing services / Ss(10) Se(1956) / *C 62

Circuit Engineering - k2

Compu-Center Corporation - k2

Compumatix, Inc. - k2

Computer Advisors to Management, Division of Statistical Tabulating Corp., 104 South Michigan Ave., Chicago 3, Ill. / Professional counseling for business, science, and government in the economic evaluation and application of computer systems for management information and control / Administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation / Ls(5000) Ms(1933) / *C 62

Computer Associates, Inc. - k2

Computer Operations, Inc., 600 Old Country Rd., Garden City, L.I., N.Y. / Programming Services and Systems Engineering / Computer programming, systems analysis, system design, logical design, mathematical analysis, commercial and engineering computation and data processing (equipment available IBM 650, 7090) / - k2 / *C 61

Computer Sciences Corp., Malaga Cove Plaza, Palos Verdes, Calif. (General Offices); 660 Madison Ave., New York 21, N. Y. (New York Division) /

Complete computing services; small to large-scale computers available. Data processing (both commercial and scientific). Consulting; including analysis, programming, training, machine processing, feasibility studies, systems programming; 1107 computer and associated equipment in Los Angeles / Ms(135) Se(1959) / *C 62

Computing Services Division, Elliott Bros., (London) Ltd., Borehamwood, Herts., England / System planners, problem analysts, programmers (half of 25 degree standard) plus supporting engineers, machine and punch operators, clerical, etc. Four computers available and ancillary equipment / Engineering design calculations; market survey analyses; project planning (PERT/PEP etc.); production optimisation problems; network flow problems; network flow problems / Ms(75) Se(1954) / *C 62

Computer Systems Consultants - k2

Control Technology, Inc. - k2

Daniel, Mann, Johnson & Mendenhall - k2

Dataman Associates - k2

Data Processing, Inc., 1334 Main St., Waltham 54, Mass. / Professionals with background experience in computer applications and related fields. Access on a commercial basis to a number of computers / Consulting, analyzing, and programming services for digital computer applications. Particular capability in advanced logical applications, compilers, artificial intelligence, etc. / Ss(16) Se(1957) / *C 61

Delta Data Corp. - k2

Designers for Industry, an Operation of Booz·Allen Applied Research, Inc., 4241 Fulton Pkwy, Cleveland 9, Ohio / Research and development services including data processing, systems analyses, system management, reliability studies, equipment selection, development and fabrication of special purpose electronic and electro-mechanical equipment / - k2 / *C 62

The Diebold Group, Inc., 40 Wall St., New York 5, N. Y. / A world-wide group of specialized management service companies combined to provide a full range of integrated services / Management consulting, specializing in information systems, automation, automatic data processing, and such related fields as numerical machine tool control, data communication, and data handling / Ms(150) Se(1954) / *C 61

Arnold I. Dumey, 29 Barberry Lane, Roslyn Heights, N. Y. / Consultant on problems of handling large amounts of data by electromechanical or electronic means / Design and application of computers; circulation problems of publishers of periodicals; statistical questions / Se(1954) / *C 62

Dynatech Corporation, 17 Tudor St., Cambridge 39, Mass. / Access to: IBM 7090, 1401; Philco Transac; RCA 301; Philbrick Analog. Small staff of computer programmers, mostly mechanical engineering oriented / Mechanical engineering and electrical engineering with associated sciences / Ms(90) Se(1957) / *C 62

Ebasco Services Incorporated - k2

Electronic Business Services, 3266 Hunts Point Rd., Bellevue, Wash. / Consultation services in automation and data processing, particularly for operators of small and moderate size businesses having problems in data processing, automation, etc. / - k2 / *C 61

Fair, Isaac & Co., Inc. - k2

Ferranti-Packard Electric Ltd., Electronics Div. - k2

Fischbach, McCoach & Associates, Inc., 30 E. 42nd St., New York 17, N. Y. / Management consultants specializing in applying scientific techniques to business-type problems. Complete service in appraisals and installation of electronic data processing and control systems for management / Business industry and government problems. Operations research; product appraisals; marketing analysis / Ss(10) Se(1959) / *C 62

The Franklin Institute Computing Center, 20th & The Parkway, Philadelphia 3, Pa. / Modified Univac I data processing system with associated ancillary equipment including card-to-tape, tape-to-card, low-speed and high-speed printers, unitypers and keypunch. Personnel includes programmers, statisticians, operators, maintenance, unitypists and keypunch operators / Business data processing; scientific and engineering computations; large scale inventory control problems; man-machine simulations; photogrammetric problems / Ss(23) Se(1957) / *C 62

Gannett Fleming Corddry and Carpenter, Inc. - k2

H. S. Gellman & Company Limited, 481 University Ave., Toronto 2, Ontario, Canada / Systems Consultants / Consulting services, specializing in automatic data processing and operations research / - k2 / *C 61

General Kinetics Inc., 2611 Shirlington Rd., Arlington 6, Va. / Computer input devices on hand; access to customer or rental computers / Programming services for all general purpose computers; recommendation, design, and construction of automatic programming and automatic checking systems to fit specific needs; mathematical studies; numerical analysis; data reduction; information retrieval / Ss Se(1955) / *C 62

General Electric Co., Computer Dept. - k2

GPS Instrument Co., Inc., 180 Needham St., Newton, Mass. / Computer center staffed by expert electronics engineers and mathematical physicist. Analog computing equipment available from own manufacturing center / Nearly any problem expressible by differential or algebraic equations. Iterative capabilities available for multiple variable problems / Ss(40) Se(1955) / *C 62

Herbert Halbrecht Associates, Inc. - k2

Hammer Business Service - k2

Edward Bernard Healy, Jr. - k2

S. Himmelstein & Co., 330 W. Peterson Ave., Chicago 45, Ill. / Consulting/engineering services concerning magnetic storage systems, punched tape systems, photoelectric readers, high-speed printers, computer peripheral equipments; data acquisition, storage and processing systems engineering / - k2 / *C 62

Hollander Associates, P. O. Box 2276, Fullerton, Calif. / Experienced engineers recognized for their contributions in the computer field supplemented by an alert and creative supporting staff / Evaluation and design of computer systems and their component units. Unique objective evaluation procedure clearly demonstrates relative advantages of alternate approaches / Ss(5) Se(1961) / *C 62

The I. D. R. Co. (Industrial Data Reduction), 4740 Spruce St., Philadelphia 39, Pa. / IBM 1401 on premises, other machines used as needed

/ Full line data processing with specialty of publishing industry services / ?s Se(1961) / *C 62

Ing. firma Nordisk ADB AB, Fack, Solna 1, Sweden. Subsidiaries: Nordisk ADB, Waerner & Co., Ramistrasse 8, Zurich; Nordisk ADB Deutsche GmbH, Bonner Strasse 117, Dusseldorf, Germany; Iberica ADB, Torre de Madrid, Madrid 13, Spain / Specialize in civil engineering, data processing. The programming staff includes 12 civil engineers, specializing in road planning and structure. Develop large scale systems for road departments in Europe / Systems for road planning and constructions / Ss(25) Se(1959) / *C 62

Institute for Scientific Information, Inc. - k2

The ITT Data Processing Center, P. O. Box 285 Paramus, N. J. / 1 IBM 7090 Computer (Large), 1 IBM 7070 Computer (Large), 4 IBM 1401 Computers (Medium), one 407 Tabulator, two 519 Reproducers, one 557 Interpreter, one 087 Collator, two 082 Sorters, five 056 Verifiers, fourteen 026 Keypunches, Transceiver, 250 programmers and analysts available / Business data processing, scientific computing, engineering calculations, statistical analysis, programming, systems analysis; 7090, 7070 and 1401 block time; communications - data transmittal / Ms (300) Se(1958) / *C 62

KCS Ltd. - k2

A. T. Kearney & Co. - k2

Edwin A. Lipps Engineering - k2

Loyola Laboratories - k2

Machine Computing Services, 138 South Second East, Salt Lake City 11, Utah / Broker of idle time on a broad line of computer and punched card equipment, including peripheral, some security cleared. Rates quoted by job or hour. Consulting programmers, engineers, mathematicians, etc., available to help with any business or science problem / Ss(4) Se(1960) / *C 61

Management Assistance Inc. - k2

Math. Beratungsdienst, Kleppingstr. 26, Dortmund Germany / Consulting with all problems of electronic computers operations research, etc.; 12-15 consultants (mathematicians, economists, and management economists) / Application of mathematical methods in management economics, service center application of punched tape with small to medium-size firms / Ss(41) Se(1957) / *C 62

McDonnell Automation Center, Div. McDonnell Aircraft Corp. - k2

Mesa Scientific Corp. - k2

H. Jefferson Mills, Jr., Management Consultant - k2

Multnomah Data Processing Center, 430 N. W. 10th Ave., Portland, Ore. / Facilities for absorbing all sizes of computer applications work including systems design, programming, coding and operating. Engineering and scientific personnel on the staff as well as large aggregate of data processing systems experience / Specialize in engineering, statistical, and management science computer applications, taking the work at any stage of development from over-all planning to operation on our computer or the customer's computer / Ss(40) Se(1958) / *C 62

National Computer Analysts, Inc. - k2

Simon M. Newman, Documentation Consultant, 2027 Que St., N. W., Washington 9, D. C. / Independent consultant, with 18 years experience in construction and integration of scientific and technical hierarchical classifications; 6 years experience in the mechanization of such systems for information retrieval. 32 years of experience with Patent Office search problems, requiring detailed and exact technical searching / Design of information retrieval systems, and recommendations for implementation by use of hardware, when economically justified / Ss(1) Se(1961) / *C 61

John K. Paden Co. - k2

James Addison Potter, Consulting Engineer - k2

Ransom Research, Inc. - k2

Scientific Computing Service Ltd., 23 Bedford Sq., London, W. C. 1, England / Access to: Ferranti, Elliott, English Electric, IBM, and Cambridge University EDSAC electronic digital computers; miscellaneous electric and hand desk calculators / General consulting; computations for commerce and industry; advanced applied research; pure research; developing problems in mathematical and statistical fields to the point where they may be effectively computed, then recommending the means / Ss(16) Me(1939) / *C 61

The Service Bureau Corp., a subsidiary of IBM, 425 Park Ave., New York 22, N. Y. (offices in 70 cities) / Consulting services / Analytical and engineering services to aid in the formulation and design of the solution to data processing problems in business, science, and engineering / - k2 / *C 61

Marc Shiowitz & Associates, Inc., 12838 Weber Way, Hawthorne, Calif. / Engineering consulting and professional engineering services in electronic systems engineering, logical design, circuit design, mathematical analysis, computer programming for airborne or ground-based computers and automatic test equipment / - k2 / *C 61

Simulmatics Corp. - k2

Soroban Engineering, Inc. - k2

Space Services Division, Division of Statistical Tabulating Corp., 104 South Michigan Ave., Chicago 3, Ill. / Support Programs for Aerospace Components and Equipment. Logistics; technical writing; provisioning parts breakdown; illustrated parts breakdown; spares documentation; provisioning conferences counseling / Administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation / Ls(5000) Ms(1933) / *C 62

Statistical Tabulating Corp., 104 South Michigan Ave., Chicago 3, Ill. / Fourteen data processing and computer centers, nationwide, containing IBM 1400-Series card and tape systems plus peripheral equipment and conventional punch card tabulating data processing machines / Administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation. Divisions: Data Processing; TASK FORCE; Computer Advisors to Management; Space Services / Ls (5000) Me(1933) / *C 62

Sterling Instrument div. of Designatronics - k2

Tabulating Service of Dallas, 1222 Ft. Worth Ave., Dallas 8, Tex. / Two 402's, two 514's, three 082's, 552, 085, 602, 046, 026, six 024's, five 056's. Computer experience in 1401 and 1790 / Payrolls, sales analysis, inventories, census, surveys, general punched card and punched tape data processing / Ss(20) Ms(1946) / *C 62

Consulting Services

TASK FORCE, Division of Statistical Tabulating Corp., 104 South Michigan Ave., Chicago 3, Ill. / Organizational problem-solving with one or more temporary office personnel in various skill families (data processing and computer operators, programmers, and supervisors; executive and technical; typing and stenographic; bookkeeping and office machines; clerical) for conversions, peak loads, unusual situations, second shift operations, etc. / Administrative management, scientific management, engineering and general data processing, programming, systems, analysis, and consultation / Ls (5000) Ms (1933) / *C 62

Technical Operations, Inc., South Ave., Burlington, Mass. / Access to computers / Automatic programming systems; digital simulations; war gaming; scientific computation / Ms (250) Me (1950) / *C 61

Telecomputing Corp. - k2

U. S. Air Force, Management Computations Branch, Data Processing Div. - k2

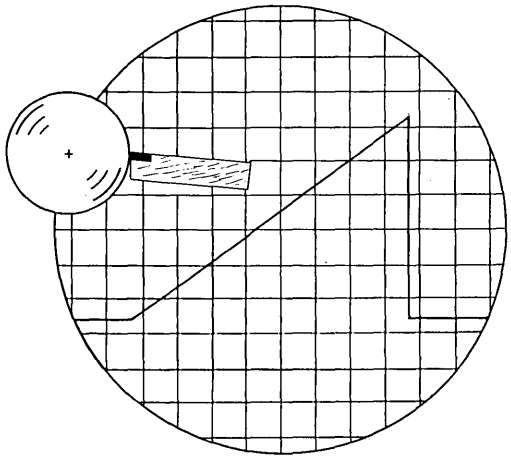
University of Manchester, Computing Machine Laboratory, Manchester 13, England / Mathematical and engineering / Construction and scientific applications of computers / Ss (30) Me (1949) / *C 62

Westinghouse Electric Corp., Advanced Systems Engineering and Analytical Dept., E. Pittsburgh, Pa. / Experienced engineers and scientists in solution of advanced problems; full compliment of computing equipment (Digital: 7090, 1401); Analog: Anacom electronic differential analyzer / Electric utility systems studies, mechanical studies, management applications, nuclear applications, control system optimization, automatic design / Ms (83) Me (1948) / *C 62

Wolf Research & Development Corp. - k2

Woods, Gordon, & Co., 15 Wellington St. West, Toronto, Ontario, Canada (also at Montreal, London, Calgary, Vancouver / - / Management consulting and system design / Ms (52) Le (1930)/ *C 62

- END -



ROBOTS — ROSTER OF ORGANIZATIONS

A significant area in the field of automatic machinery for handling information and acting in regard to it is the field of robots, mobile machines which have apparatus for sensing, for handling information, and for acting in general-purpose, controllable ways.

Environments which human beings cannot enter because of heat, cold, pressure, radiation, and in which there are jobs to be done, have caused some of these robots to come into existence. Also general-purpose manipulative tasks, which need to be repeated from half a dozen times up to several hundred times, have led to the development of some of these robots.

The survey form asked for: Brief description of your robots? / Control or input? / Applications or output? / Rental and sales prices? / Any remarks? / Number of your employees? / Year established?

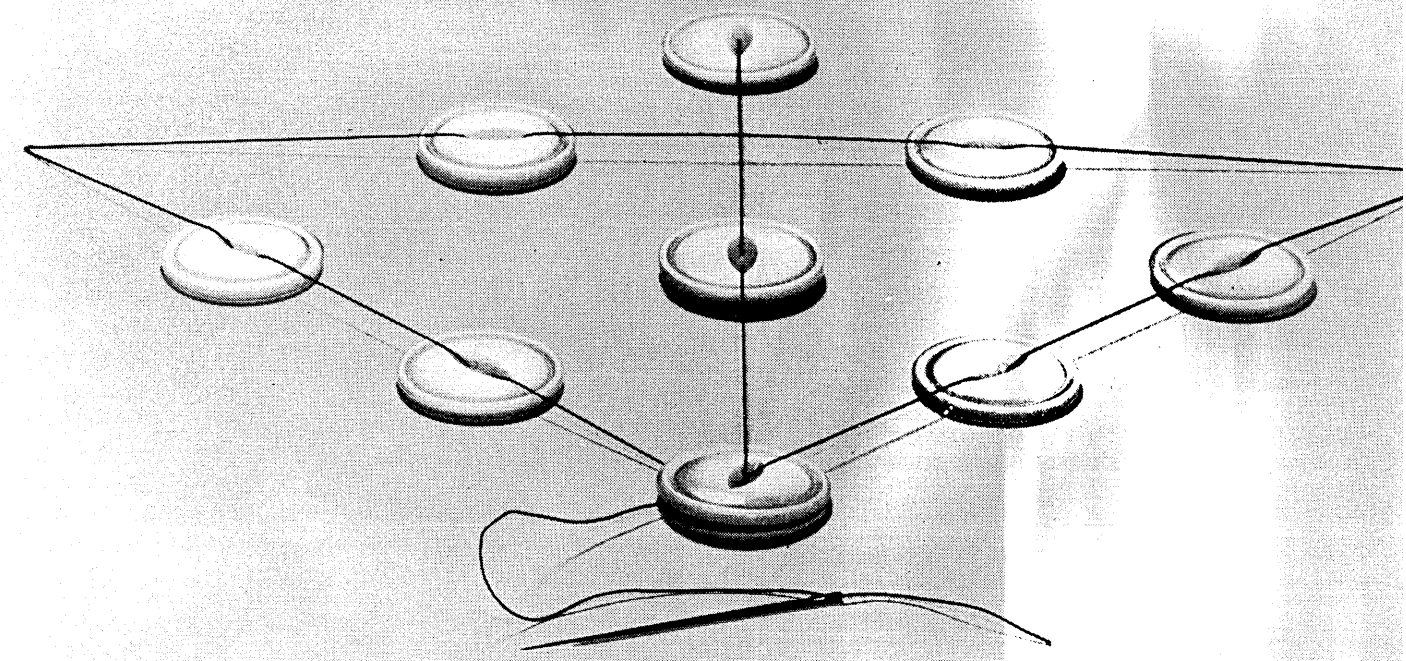
Although the survey inquiry was sent to a dozen organizations, only two replied, as shown below.

Additions, corrections, and suggestions are invited.

Consolidated Controls Corp., 15 Durant Ave., Bethel, Conn. / Danbury 743-6721
Robot called Unimate with hydraulically actuated arm; size 5 ft. by 4 ft. by 4 1/2 ft. high; maximum load, 25 lbs. at normal operating speed; positioning accuracy, ±0.050 inches in each dimension; memory capacity, 20° sequential commands; clamping force, up to 180 lbs. at the end of four inch fingers; hands and fingers to suit a particular job. Input is via leading the arm and hand (5 degrees of freedom) to each position and recording the position on a magnetic memory drum. Main application, performing repetitive jobs that last from a few hours to many days; can easily be taught a new job. Price, $25,000 each. / 300 employees / Established 1957

Hughes Aircraft Co., Nucleonics Division, P. O. Box 2097 Fullerton, Calif.
Robots called Mobots for nuclear, underwater, and space environments, and for automation. Control input for the automatic Mobot is magnetic tape. Designed for applications in environments which are impossible, difficult, or fatiguing for human beings. Price, $25,000 to $200,000; also leasing program available.

ACHPHENOMENON



For the first moment, the elements are seen separately. Then suddenly, insight arrives. The structure is seen as a whole. With just four straight lines it is possible to bisect all nine dots, the pencil never leaving the paper. What happened? A Flash Experience. Aha! Achphenomenon.

The courage to go outside the confines of the original pattern resulted in an optimal solution. This talent to think in new directions is a quality we look for in engineers. If you're sometimes dissatisfied with traditional concepts and look for a chance to exercise your creative impulses, send a resume to Mr. Nick B. Pagan, Manager Professional and Scientific Staffing. Expect a prompt reply.

LITTON SYSTEMS, INC.
GUIDANCE AND CONTROL SYSTEMS DIVISION
5500 CANOGA AVENUE, WOODLAND HILLS, CALIF.
Guidance Systems • Control Systems • Computers • Computer Components
An Equal Opportunity Employer

DESCRIPTIONS OF

DIGITAL COMPUTERS

Patrick J. McGovern
Assistant Editor
Computers and Automation

The purpose of this report is to give the characteristics of United States general-purpose digital computers currently available for sale or rent. The next edition of this report will also include digital computers produced in other countries.

The three sections give: (1) Internal Characteristics; (2) Input and Output; and (3) Cost and Use.

Any additions, corrections, or comments are invited.

Abbreviations:

B	— binary
D	— decimal
FBD	— fast bands on memory drum
K	— 1000
KK	— 1,000,000
m	— millisecond, thousandth of a second
N	— no, none
O	— octal
P	— punch, output
R	— read, input
u	— microsecond, millionth of a second
V	— variable
Y	— yes

EXPLANATION OF HEADINGS

Internal Characteristics

Solid State?: If the computer is built with primarily solid state devices such as transistors, distinguished from non-solid state devices such as vacuum tubes, a "Y" appears in this column. Solid state devices are generally more reliable than non-solid state devices.

Number System:
- Number Base: the number base the machine uses internally (either binary, octal, or decimal).
- Bits/Digit: the number of binary bits per digit (digit is either a binary, octal, or decimal digit; SEE Number Base).
- Digits/Alphabetic: the number of digits used to represent an alphabetic character.
- Word Length: the number of numerical digits per machine word.

Memory:
- Number of Words: the number of machine words contained in the memory; may be broken into two or more memory types on two or more lines. Whenever the machine word length is "variable", the Number of Words refers not to the number of machine words but to the number of digits.
- Type: memory type, such as magnetic drum (abbreviated "drum"), core storage or delay line.
- Access Time: the time required to retrieve information from the memory.

Timing -- Add, Multiply, Divide: the average time required to get and complete one operation instruction.

Machine Programming:
- Number of Instr.: the number of distinct instructions in the machine's repertoire.
- Addresses/Instr.: the number of operand addresses per instruction.
- No. Index Registers: a "0" indicates no indexing possible; a "Y" indicates that indexing is possible but information as to the number of index registers was not received.
- Indirect Addressing?: "Y" indicates indirect addressing is possible.
- Floating Point?: "Y" indicates that the machine can perform in a floating-point mode. (Floating-point arithmetic can be programmed on all machines.)

Input and Output

Magnetic Tape:
- No. of Units: maximum number of tape transports which can be directly connected to the computer.
- Tape Density: characters per inch.
- Tape Speed: speed of reading or writing on tape.
- Words/Tape: capacity of a reel of tape.

Punched Cards: speed of reading and punching cards.

Paper Tape: speed of reading and punching paper tape.

Printer Speed: speed of printing, complete lines printed per minute.

Cost and Use

Average Monthly Rental: the rental at an average installation.

Rental Range: the monthly rental range made possible by different configurations of available equipment.

One-Sum Price Range: the range of selling price.

Power: electricity requirements for an average installation.

Floor Space: floor space needed at an average installation.

Air Cond. -- Tons: air conditioning required at an average installation.

Percent Good Time: good time divided by attempted-to-run time, expressed as percent.

MANUFACTURERS AND COMPUTERS INCLUDED

Alwac Computer Div., El-Tronics, Inc., 13040 S. Cerise Ave., Hawthorne, Calif.
ALWAC III-E

Autonetics Industrial Products, Operating Div. of Autonetics, a Div. of North American Aviation, Inc., 3400 E. 70 St., Long Beach 5, Calif.
Recomp II, III

Bendix Corp., Bendix Computer Div., 5630 Arbor Vitae St., Los Angeles 45, Calif.
Bendix G-15, G-20

Burroughs Corporation, 6071 Second Ave., Detroit 32, Mich.
Burroughs E-103, 205, 220, 200 Series, 5000

Clary Corporation, 408 Junipero St., San Gabriel, Calif.
DE-60

Computer Control Co., Inc., Old Connecticut Path, Framingham, Mass.
DDP-19

Control Data Corp., 8100 34th Ave., South, Minneapolis 20, Minn.
CDC-160, CDC-1604

Digital Equipment Corp., Main St., Maynard, Mass.
PDP-1, PDP-4

General Electric Co., Computer Dept., 13430 No. Black Canyon Highway, Phoenix, Ariz.
GE 210, GE 225

Harvey-Wells Electronics, Inc., 14 Huron Dr., Natick, Mass.
HW-15K

HBR-Singer, Inc., (subsidiary of the Singer Mfg. Co.), Science Park, State College, Pa.
SEMA 2000

Honeywell Electronic Data Processing Div., 60 Walnut St., Wellesley Hills 81, Mass.
H-400, H-800

International Business Machines Corp., Data Processing Div., 112 East Post Rd., White Plains, N.Y.
IBM Ramac 305, IBM 650, 704, 705 III, 709, 1401, 1410, 1620, 7040, 7044, 7070, 7072, 7074, 7080, 7090, 7094

Librascope Div., General Precision, Inc., 808 Western Ave., Glendale 1, Calif.
Libratrol 1000, Librascope 3000, L-3060

Litton Systems, Inc., Data Systems Div., 6700 Eton Ave., Canoga Park, Calif.
C-7000

Monroe Calculating Machine Co., Inc., 555 Mitchell St., Orange, N.J.
Monorobot XI

The National Cash Register Co., Main & K Sts., Dayton 9, Ohio
NCR 304, 310, 315, 390

Packard Bell Computer Corp., 1905 Armacost Ave., Los Angeles 25, Calif.
PB 250

Philco Corp., Government & Industrial Group, Computer Div., 3900 Welsh Rd., Willow Grove, Pa.
Philco 2000-210, 2000-211, 2000-212

Radio Corp. of America, Electronic Data Processing Div., Front & Cooper Sts., Camden 2, N.J.
RCA 301, 501, 601

Ramo-Wooldridge, a Division of Thompson Ramo Wooldridge, Inc., 8433 Fallbrook Ave., Canoga Park, Calif.
RW 400, RW AN/UYK-1

Remington Rand Division of Sperry Rand Corp., 315 Park Ave. So., New York 10, N.Y.
Univac I, II, III, 490, 1103A, 1105, 1107
Univac File Computer I, II, Univac Larc, Univac SS 80/90

Royal-McBee Corp., Westchester Ave., Port Chester, N.Y.
LGP-30, RPC 4000, RPC 9000

Scientific Data Systems, Inc., 1542 Fifteenth St., Santa Monica, Calif.
SDS-910, SDS-920

Sylvania Electronic Systems, a Division of Sylvania Electric Products, Inc., 63 Second Ave., Waltham 54, Mass.
Sylvania 9400

(See tables commencing on next page)

ADDENDUM

ASI-210 / Advanced Scientific Instruments, Inc., 5249 Hanson Court, Minneapolis, Minn. / INT CHAR: solid state; 6 alph and num bits/char; 3 alph and num char/word; fast int memory, 4-8K words of core storage, access time of 2us; ADD: 10us; MULT: 54us; DIV: 54us; Instructions, 41; 3 index registers; indirect addressing; autom checking by trapped interrupt; communication between computers without buffering; no air conditioning needed / INPUT AND OUTPUT: Magnetic tape units, 32; 1.5 million words/tape; 200 char /inch tape density; writing, 22,500; reading, 22,500; search, 22,500; autom checkg; Printer lines/min: 300; char/line: 132; editing; peripheral equip can operate independently and simultaneously, buffered communication, independent program interrupt; / COST AND USE: Scientific, real-time, and business; $94,000 to $116,000; aver mon rental: $2597; 110/220 volt, single phase, 60 cycles, approx 1KVA, 5' x 7'; no air cond; sub-routine, Fortran, diagnostic programs available; modular basis

NAME OF COMPUTER	Solid State?	I. INTERNAL CHARACTERISTICS															
		NUMBER SYSTEM					MEMORY			TIMING			MACHINE PROGRAMMING				
		Number Base	Bits/Digit	Digits/Alphabetic		Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?
ALWAC III-E	N	D	4	1.5		8	128 8192	drum drum	1m 9m	1m	17m	17m	90	1	1	Y	N
	-- Bit by bit checking to and from memory, overflow checking.																
Bendix G-15	N	D	4		2	7	16 2K	FBD drum	.54m 14.5m	.54m .54m	8m 8m		100	1	Y	N	N
	-- Repeat command, indexing by means of interpretive system only.																
Bendix G-20	Y	0	3			10	4-32K	core	6u	15u	30u	70u	105	1	63	Y	Y
	-- Overflow, parity, illegal address checks. Repeat command for add, subtract, test and logic.																
Burroughs E-103	N	D				12	220	drum	10m	50m			32	1	0	N	N
Burroughs 205	N	D	4		2	10	80 4000	FBD drum	.85m 8.5m	1.7m 17m	10.8m	14m	64	1	1	N	Y
	-- Checks for: forbidden combination, central timing, drum revolution, overflow																
Burroughs 220	N	D	4		2	10	2-10K	core	10u	185u	2.9m	3.9m	96	1	1	N	Y
	-- Running time clock. Checks for forbidden combination and overflow. Partial word operations.																
Burroughs 200 Series	Y	D	7		7	V	4.8K	core	10u	740u	2.25m	6.05m	27	3	0	N	N
	-- Add time: 5 digits + 5 digits; mult. time: 5 digits x 2 digits; div. time: 5 digits ÷ 2 digits. Numerous variations of the 14 instructions.																
Burroughs 5000	Y	0	3		2	13	4-32K 32-65K	core drum	6u 8.5m	10u	37u	63u	115	V	0	Y	Y
	-- Binary, octal, decimal. Parity check. Multiprocessing with single processor; parallel processing with dual processors. Comprehensive interrupt system. Automatic memory exchange and input-output exchange. Simultaneous parallel memory access with multiple modules. Single format fixed and floating point representation.																
CDC-160	Y	B	1		6	12	4096	core	6.4u	6.4u - 19.2u			63	1	0	Y	
	-- Relative addressing; multiply and divide are programmed.																
CDC-1604	Y	B	1			48	32,768	core	6.4u	4.8 - 9.6u	25.2 - 63.6u	63.6 - 66.4u	62	1	6	Y	Y
	-- 2 instructions per word. Real-time clock. Program interrupt.																
DDP-19	Y	B	1		3	19	4K	core	3u	10u	39u	66u	64	1	1	N	Y
	-- 16 program addressable channels. High speed data transfer channel. Real time clock. Digital Resolver. Special instructions (square root, binary to BCD, BCD to binary). Automatic interrupt.																
DE-60	Y	D	4			18	32-160	drum	8.5m	61m	148m	125m	45	5	Y	N	N
	-- Overflow detection. Automatic decimal point alignment. Program trace routine built into hardware. External interchangeable function generators.																
GE 210	Y	D	4		2	6	4-8K	core	32u	64u	550u	1200u	90	1	1	N	N
	-- Double precision mode.																
GE 225	Y	B	1		6	20	2-16K	core	18u	36u	250u	400u	175	1	96	Y	Y
	-- Double precision mode.																
H-400	Y	D		1.5		12	1-4K	core	8u	110u			48	3	3	N	N
	-- May be used as binary machine with 48 bit word.																
H-800	Y	D				12	4-32K	core	6u	24u	150u	312u	51	3	64	Y	Y
	-- 8 multiple channel programming. Can be used as a 48 bit word size binary machine.																

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS														
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING				
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?
HW-15K	Y	B	6	6	24	4K	drum	8.5m	700u			12	1	0	N	N
-- Multiply, divide, floating point programmed. Parity checking on words read from drum. Words interlaced on drum.																
IBM Ramac 305	N	B			V	2000	drum	10m	50m	V	V		2	0	N	N
						5-20KK	disk	600m								
-- Parity check. Variable word length																
IBM 650	N	D			10	60	core	.1m	.7m			100	1	3	N	Y
						1-4K	drum	2.4m	.7m	7.3m	11m					
						6-12KK	disk	425m								
						digits										
-- Multiply and divide timing refer to 5 digit fields. 60 core words and disk memory are optional. Disk access can be overlapped. Operation code, bi-quinary, and validity checks. Table look up.																
IBM 704	N	B	3	2	36	4-32K	core	12u	24u	240u	240u	91	1	3	N	Y
-- Overflow, underflow, transfer trapping mode, divide, floating point trap checks.																
IBM 705III	N	D	7	1	V	20-80K	core	9u	.087m	.606m	3.35m	60	1	0	Y	N
						60K	drum	8m								
-- Internal parity check.																
IBM 709	N	B	3	2	36	4-32K	core	12u	24u	24 - 240u	36 - 240u	196	1	3	Y	Y
-- Overflow, underflow, divide, floating point trap checks. Multiple channel programming, sense indicator register.																
IBM 1401	Y	D	7	1	V	1.4 - 16K	core	11.5u	230u	2.1m	2.6m	43	1,2, 3	3	N	N
						10-20KK	disk	550m								
-- Parity, character code and address validity checks. Multiply divide instructions are optional. Easily adaptable to operate with the 7000 series.																
IBM 1410	Y	D	7	1	V	10-40K	core	4.5u	110u	1.2m	2.3m	190	2	15	N	N
						10-100KK	disk	550m								
-- Code and address validity checks, parity check. Dual channel, priority feature, overlap, table look up, synchronization.																
IBM 1620	Y	D	6	2	V	20-60K	core	20u	56m	4.96m	16.86m	32	2	0	Y	N
-- Parity check. 5 additional instructions optional. Immediate addressing, branch transmit.																
IBM 7040	Y	B	4	6	36	4-32K	core	8.0u	16u	33.5 - 46u	18.5 - 61u	73	1	3	Y	Y
-- Optional additional instructions: 42. Memory parity, I/O parity, floating point trapping (overflow, underflow). Multiple channel programming -- memory protection, clock interval timer, double precision floating point.																
IBM 7044	Y	B	4	6	36	8-32K	core	2.5u	500u	22.5 - 35u	7.5 - 50u	73	1	3	Y	Y
-- Optional additional machine instructions: 42. Memory and I/O parity, floating point trapping (overflow, underflow). Multiple channel programming-memory protection, clock-interval timer, double precision floating point.																
IBM 7070	Y	D	5	2	10	5-10K	core	6u	72u	924u	792 - 984u	200	1	99	Y	Y
-- Divide time refers to 5 digit quotient. Fully checked adder, transfer check. Priority processing. Zero suppression. Scatter read-write.																

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS														
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING				
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?
IBM 7072	Y	D	5	2	10	5-30K	core	6u	12u	64u	74u	200	1	99	Y	Y
-- SEE remarks under IBM 7070																
IBM 7074	Y	D	5	2	10	5-30K	core	4u	10u	56u	70u	200	1	99	Y	Y
-- SEE remarks under IBM 7070																
IBM 7080	Y	D	7	1	V	1K	core	1u				106	1	0	Y	Y
•						80-160K	core	2u	11u	100u	253u					
-- Parity checking.																
IBM 7090	Y	B	3	2	36	32K	core	2.18u	4.36u	4.36u - 30.52u	6.54 - 30.52u	227	1	3	Y	Y
-- Floating point trap, transfer trapping, overflow, underflow, and divide checks. Multiple channel.																
IBM 7094	Y	B	4	6	36	32K	core	2.0u	4.0u	4-10u	6-18u	268	1	7	Y	Y
-- Floating point, transfer trapping, I/O parity, divide checks. Multi-channel programming, double precision floating point, instruction overlap.																
LGP-30	N	B	1	6	31	4K	drum	8.5m	2.25m	17m	17m	16	1	0	N	N
-- Interlacing of words on drum reduces memory access time. No automatic checking. Oscilloscope display of registers.																
Libratrol 1000	Y	D	4	1.5	8	8	FBD	1m	1m	18m	18m	32	1	1	Y	N
						7872	drum	8m	1m	18m	18m					
-- 128 words accessible by dual tracks.																
Librascope 3000	Y	B	6	6	48	4-64K	core	2.5u	16u	23u	36u	97	1	11	Y	Y
-- Parity checking throughout system, verified arithmetic unit, dual recording optional in files. Breakdown control, program branching via flip-flops.																
Litton C-7000	Y	B	1	6	21-40	64K	drum	2u	4u	23u	46u	57	1	3		N
						32K	core									
L-3060	Y	B			48	32K	core	.75u	2u	9u	6-24u	103	1	63	Y	Y
-- System is designed on a modular basis; 8, 192 words of core storage available as a shared memory between interconnected computers. Priority interrupt feature. Automatic error detection.																
Monrobot XI	Y	B	1	6	32	1K	drum	6m	9m	34m		27	1	0		
-- 2 instructions per word.																
NCR 304	Y	D	4	1.5	15	2.4-4.8K	core	60u	.6m	3m	3m	37	3	10	N	Y
-- Parity and echo checking. Instructions are 2 words long. A single-address microprogrammed instruction system is included.																
NCR 310	Y	B	1	6	12	4K	core	6.4u	12.8u			64	1	0	Y	N
-- No automatic checking. Computer is a version of the CDC-160. Multiply and divide must be programmed																
NCR 315	Y	D	4	1.5	3	2-40K	core	6u	36u	294u	1044u	90	1	32	N	N
-- Parity and echo checking.																
NCR 390	Y	D	4		12	200	core	1.2m	11.3m	204.6m	248.6m	26	4	0	N	Y
-- There are 10 "string of address" type instructions, e.g., "sum A through D".																
PB 250	Y	B	1		22	16	delay	.09m	24u	288u	264u	59	1	1	N	N
						2.3-16K	delay	1.5m	24u	288u	264u					
						16K	core	24u								
-- Parity checking. Memory consists of magnetostrictive delay lines.																

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS																
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING						
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?		
PDP-1	Y	B	3.26	6	18	4-65K	core	2.5u	10u	20u	20u	28	1	0	Y	N		
-- Microprogramming. Optional 16 channel sequence break, program resumes according to interrupting channel. Built-in marginal checking facilities.																		
PDP-4	Y	B	6	3.26	18	1-8K	core	4.5u	18u			13	1	N	Y	N		
-- Multiply and divide operations programmed. Floating point programmed. Built-in marginal voltage checking.																		
Philco 2000-210	Y	D	6	1	8	4-32K	core	10u	14.8u	69.9u	73.8u	225	1	32	N	Y		
						32K	drum	25m										
-- Repeat modes, asynchronous operation, automatic interrupt.																		
Philco 2000-211	Y	D	6	1	8	32K	core	2u	4.1u	34.9u	36.7u	225	1	32	N	Y		
						32K	core	10u										
						32K	drum	25u										
-- Transmission checking. Repeat modes, asynchronous operation, automatic interrupt.																		
Philco 2000-212	Y	D	6	1	8	32K	core	2u	.55u	4.3u	9.8u	248	1	8	N	Y		
-- Transmission parity checking. Four way processing, four repeat modes, automatic interrupt, asynchronous parallel memory access. Look ahead. 7 instructions may be processed simultaneously.																		
RCA 301	Y	D	6	1	V	10-40K	core	7u	189u			48	2	0	Y	N		
-- Multiply and divide are programmed.																		
RCA 501	Y	D	6	1	12	16-262K	core	15u	360u	1.9 - 9.6m	1.3 - 2.4m	49	2	7	Y	N		
-- Indirect addressing limited to scatter and gather operations.																		
RCA 601	Y	B	1-8	1	56	8-32K	core	.9-1.5u	6u	70u	214u	121	2	8	Y	Y		
-- Variable length instructions are 1/2 word, or 2 1/2 words long. Multiple program processing and memory overlap. Double precision arithmetic.																		
Recomp II	Y	B	1	5	40	16	disk	.95m	1.49m	11.75m	12.05m	49	1	0	N	Y		
						4K	disk	8.64m	9.18m	19.44m	19.74m							
-- Echo checking.																		
Recomp III	Y	B	1	8	40	16	disk	1.89m	.54m	10.8m	11.07m	52	1	1	N	Y		
						4080	disk	9.4m	.54m	10.8m	11.07m							
-- No automatic checking.																		
RPC 4000	Y	B			32	128	FBD	5m	1m	17m	17m	42	2	1	N	N		
						8K	drum	8.5m										
-- Instruction contains the address of the next instruction. Repeat command.																		
RPC 9000	Y	D		1	12	72	delay	.8m	.23m	2.9m	3.5m	43	1	0	N	N		
-- Memory is nickel wire delay lines and may be expanded. Uses loops of magnetic tape as main storage (see INPUT AND OUTPUT). Single character commands and addresses.																		
RW400	Y	B	1		26	9K	core	10u	14u			43	2	Y	N	N		
-- Interrupt system.																		
RW AN/UYK-1	Y	B	1		15	8-32K	core	6u	12u									
SDS-910	Y	B	4	6	24	2-16K	core	8u	16u	248u	500u	39	1	1	Y	N		
-- Multiply and divide programmed. Memory parity check, input/output parity.																		
SDS-920	Y	B	4	6	24	4-16K	core	8u	16u	32u	224u	62	1	1	Y	N		
-- Has microprogrammed register. Multiply and divide programmed. Memory parity check, input/output parity.																		

NAME OF COMPUTER	Solid State?	INTERNAL CHARACTERISTICS														
		NUMBER SYSTEM				MEMORY			TIMING			MACHINE PROGRAMMING				
		Number Base	Bits/Digit	Digits/Alphabetic	Word Length	Number of Words	Type	Access Time	Add Time	Multiply Time	Divide Time	Number of Instr.	Addresses/Instr.	No. Index Registers	Indirect Addressing?	Floating Point?
SEMA 2000	Y	D	4	8	40	2-20K	drum	8.5m	350u	.5 - 50m		30	1	1	N	N
	-- Odd parity checking on read and write, checks synchronization of drums, checks on performance of all instructions. Negative, zero and flag selectors, address modification features.															
Sylvania 9400	Y	B			37	16-32K	core	4u	8u				1	7	N	Y
Univac I	N	D	7	1	11	1000	delay	242u	525u	2.15m	3.95m	45	1	0	N	N
	-- Duplicate arithmetic and comparison circuitry, parity check.															
Univac II	N	D	7	1	12	2000	core	40u	200u	1.9m	3.7m	47	1	0	N	N
	-- Parity check, some duplicate circuits.															
Univac III	Y	D	4	1.5	6	8-32K	core	1.07u	8u	124u	144u	61	1	15	Y	Y
	-- Field selection, automatic checking, interrupt, multiple word operands, scatter read, gather write, addressable clock.															
Univac 490	Y	B	1	6	30	16-32K	core	1.9u	12u	84u	84u	62	1	7	N	N
						78KK	drum	17m								
	-- Illegal function and millisecond timeout checks. Concurrent program operation via automatic interrupts.															
Univac 1103A	N	B	1	6	36	4-12K	core	8u	60u	410u	490u	50	2	0	N	Y
						16-32K	drum	17m								
	-- Parity, overflow, lockout, main control checks. Interrupt feature and repeat command.															
Univac 1105	N	B	1	6	36	8-12K	core	8u	60u	410u	490u	50	2	0	N	Y
						16-32K	drum	17m								
	-- Parity, overflow, lockout checking. Interrupt feature and repeat command.															
Univac 1107	Y	B	1	6	36	128	film	.3u				115	1	15	Y	Y
						65K	core	1.8u	4u	12u	31.8u					
	-- Overflow check. Index addressing cascadable, 128 loop count registers, automatic incrementation.															
Univac File Computer I	N	D	7	1	12	20	core	.9m	8.6m	23.8m	27.5m	23	3	0	N	N
						1020	drum	3.1m								
	-- Additional 19 plugboard instructions and 63 in/out instructions. Components partially solid state.															
Univac File Computer II	N	D	7	1	12	2000	core	.63u	3.4u			23	3	0	N	N
	-- SEE remarks under Univac File Computer I															
Univac Larc	Y	D	5	2	12	100	core	1u				76	1	99	Y	Y
						10-97K	core	4u	4u	8u	28u					
						6KK	drums	68m								
	-- "Processor" controls in/out and information transfer. 76 summary orders from computer to Processor, 88 Processor instructions, including in/out. Automatic checking and 20% duplicate circuits. All single-bit errors detected. Look-ahead permits fast add. 1, 2, or 3 addresses per instruction.															
Univac SS 80/90	Y	D	4	1.5	10	200-1600	FBD	425u	510u	2.2m	2.4m	53	1	3	N	N
						2.4-7K	drum	1.7m								
	-- Parity, overflow, logical checks.															

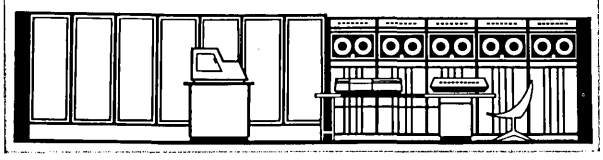
II. INPUT AND OUTPUT

NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
Alwac III-E	16	175	17.5K	460K	100R 100P	50R 50P	150
	-- Parity checking. Magnetic tape, card and paper tape editing. Simultaneous read-write-compute. Plotter may be added.						
Bendix G-15	4	57	430	300K	100R 100P	250R 17P	100
	-- Tape search speed is 2600 char/sec. Optional paper tape punch speeds: 400R, 60P. Magnetic tape editing and checking. Tape reads in both directions. Tape and card operations buffered. Graph plotter, digital differential analyzer may be added.						
Bendix G-20	144	1100	240K	1KK	1000R 250P	500R 100P	1000 1500
	-- Magnetic tape editing, programmed print editing. High print speed refers to wholly numerical lines. Multiple read-write-compute.						
Burroughs E-103	N				*	20R	*
	-- *Card read at 17/20 columns per sec., card punch at 17 columns per sec. Printer, semi-ganged, prints at 24 digits per sec. Data plotter may be used.						
Burroughs 205	10	100	6000	400K	300R 100P	540R 60P	150
	-- Card and print editing via buffer drums and format bands. Datafile Multiple Tape Bin available as auxiliary storage -- 20,000,000 digits per file, 10 files available. Dual lane magnetic tape, independent search in both directions, addressable tape.						
Burroughs 220	10	208	25K	1.3KK	300R 100P	1000R 60P	1500 150
	-- Card and print editing via buffer drums and format bands. Datafile Multiple Tape Bin available as auxiliary storage -- 65,000,000 digits per file, 10 files available. Dual lane magnetic tape, independent search and scan. High speed printer may be used on-line or off-line.						
Burroughs B200 Series	6	200-555	18-50K	1.6KK	800R 300P	1000R 100P	700
	-- Card readers, punches, printers, MICR sorter-reader fully buffered. Ledger record processor.						
Burroughs 5000	16	555 200	66K 24K	2KK	800R 300P	1000R 100P	700
	-- Complete multiple read-write-compute buffering. Tape format compatible with IBM 729II and 729IV units. Plotter may be added. Vertical and horizontal magnetic tape parity checking.						
CDC-160	30	200	30K	7K		350R 60P	
CDC-1604	24	200	30K		1300R 200P	350R 60P	1000
	-- Multiple read-write-compute.						
DDP-19	16	556	62.5K		400R	1000R	600-1200
	-- Analog I/O, digital XY plotter, other I/O devices available.						
DE-60	N				N	N	12
	-- Print and compute simultaneously. Typewriter, plotter. Numeric keyboard.						
GE 210	13		30K		1500R 100P	500R 60P	1000
	-- Read-write-compute. Magnetic document sorter-reader available. Printer can print magnetically encoded characters.						
GE 225	64		15-62K	250P	1000R 110P	1000R	900
	-- Multiple read-write-compute. Magnetic document sorter-reader available. Disk file with access time of 169m.						

Honeywell's newest magnetic tape units may be just your speed

Now there are four models of magnetic tape systems to choose from in Honeywell's line-up of high-speed computers. The newest addition is called the Super Density system. It might also be called Super Speed, with its transfer rate of 186,000 decimal digits per second. Other models in the line include the High Density system which has a transfer rate of 133,000 digits per second, the Standard system at 96,000 digits per second, and the Economy system at 48,000. With a speed for every need, you can select the combination of computer and magnetic tape system that will assure maximum efficiency and economy for the job you have at hand.

With the compatibility of this line of magnetic tape systems, you also have added flexibility when it comes time to expand. You can move up to higher speed units without need for reprogramming or other costly changeover operations. Tapes written at one speed can be read at other speeds on other units.



Super Density gives higher speed, takes less tape

The new Super Density magnetic tape units achieve their high data transfer rate by packing information more compactly on tape. The 777 bits-per-channel-inch density of the Super Density unit compares, for example, to the 397 bits-per-inch of the Standard unit. In addition to higher speeds, this also means that more data is recorded on a reel of tape which, in turn, means fewer reels, less tape changing.

Table talk

	Economy Tape Unit	Standard Tape Unit	High Density Tape Unit	Super Density Tape Unit
DENSITY OF DATA ON TAPE				
Decimal digits per inch of tape	794	794	1,111	1,554
Pulses (bits) per channel inch	397	397	555	777
TRANSFER RATES				
Decimal digits per second	48,000	96,000	133,000	186,000
Alphanumeric characters per second	32,000	64,000	89,000	124,000
MEAN TRANSFER RATE				
Characters per second	40,000	80,000	111,000	155,000
SYSTEM APPLICABILITY	H400	H400 H800	H400 H800 H1800	H800 H1800

Automatic error correction across the board

All Honeywell magnetic tape units feature Orthotronic Control, a unique method of automatically detecting and correcting errors. This technique, developed and perfected by Honeywell, minimizes the cost of maintaining accuracy and saves time otherwise required by human intervention or rerunning of programs.

Transports that treat their tape tenderly

All Honeywell tape units utilize vacuum capstans to produce and control the motion of tape past the read/write head. Vacuum is used to grip the tape to one of two counter-rotating capstans, depending on the direction of motion called for. Air pressure serves as a low-friction bearing to float the tape over the surface of the opposite capstan. The course of tape travel from reel to reel is designed in such a way that the oxide surface of the tape is untouched by any portion of the unit except the read/write head. Also, there are no pinch rollers to imbed dirt or dust into the tape or cause excessive wear. No other tape units treat their tape so gently or transport it so precisely.

Even a novice can change Honeywell tapes in seconds

Honeywell tape units and tape reels are designed for fast, safe changing. Reels are locked in place and the tape leader is threaded with the aid of vacuum. There are no openings in the reel flanges to catch fingers or foul the tape. Tapes can be changed in less than 25 seconds with a minimum of practice.

Write for more information

If you would like more information, write to Honeywell EDP Division, Wellesley Hills 81, Mass. In Canada, Honeywell Controls Limited, Vanderhoof Avenue, Toronto 17, Ontario.

Honeywell

H HONEYWELL *Electronic Data Processing*

INPUT AND OUTPUT

NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
H-400	64		64K		650R 250P	1000R 60P	900
	-- Automatic magnetic tape error correction. Tape reads in both directions.						
H-800	64		64K		650R 250P	1000R 60P	900
	-- Automatic magnetic tape error correction. Tape reads in both directions.						
HW-15K	N				N	20R 20P	N
	-- Typewriter input at 120 char/sec. Simultaneous read-write-compute.						
IBM Ramac 305	N				125R 100P	60R 60P	150
	-- Control panel editing. Simultaneous read-compute or write-compute.						
IBM 650	6	200	15K	450K	250R 250P	60	150
	-- Control panel editing. Automatic checking. Simultaneous read-write-compute. Bulk disk storage (see INTERNAL CHARACTERISTICS).						
IBM 704	10	200	15K		250R 100P		150
	-- Control panel editing. Automatic checking. Limited overlap of computing with reading or writing. Cathode ray tube plotter may be attached. Physical tape records of any length: physical records can be broken into any number of logical records.						
IBM 705 III	100	556	62.5K	16KK	250R 100P		1000 500 150
	-- Automatic checking. Internal tape editing. Read-write-compute simultaneously.						
IBM 709	48	200- 556	15- 62.5K		250R 100P		150
	-- Control panel editing. Physical tape records of any length; physical records contain any number of logical records. Read-write-compute simultaneously.						
IBM 1401	6	200- 555	7.5- 62.5K	2-7K	800R 250P	500	600 1285
	-- Control panel and programmed editing. Print is buffered. High speed for printer refers to the printing of entirely numerical lines. A magnetic ink reader-sorter, an optical character reader, and many other devices may be attached.						
IBM 1410	20	200- 555	7.5- 62.5K		800R 250P	500R	600
	-- In/out editing commands. Automatic checking. Bulk disk storage (see INTERNAL CHARACTERISTICS). Read-write-compute. 1412 magnetic character reader may be added.						
IBM 1620	N				250R 125P	150R 15P	
	-- Automatic checking. Card input-output buffered. 1711 Data Converter can be added for real-time input.						
IBM 7040	56	800	90K		800R 250P	500	600
	-- Simultaneous read-write-compute. Disk files, teletype, remote inquiry, data transmission unit, 1401.						
IBM 7044	56	800	90K		800R 250P	500	600
	-- Simultaneous read-write-compute. Disk files, teletype, remote inquiry, data transmission unit, 1401.						
IBM 7070	40	200- 556	7.2K- 62.5K	1.5KK	500R 250P	500R 60P	600 150
	-- Automatic checking. Magnetic tape, paper tape, and printer editing. Paper tape off-line; 600 line/min. printer off-line. Multiple read-write-compute. 1401 used for input and output at high speeds.						

INPUT AND OUTPUT

NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
IBM 7072	40	200-556	7.2-62.5K	1.5KK	500R 250P	500R 60P	600 150
-- Automatic checking. Magnetic tape, paper tape, and printer editing. Paper tape off-line. 600 line/min. printer is off-line. Multiple read-write-compute. 1401 used for data input and output at high speeds.							
IBM 7074	40	200-556	7.2K-62.5K	1.5KK	500R 250P	500R 60P	600 150
-- Automatic checking. Magnetic tape, paper tape, and printer editing. Paper tape off-line; 600 line/min. printer off-line. Multiple read-write-compute. 1401 used for input and output at high speeds.							
IBM 7080	40	200-556	15-62.5K	1.6KK			
-- Uses 1401 for card, paper tape and print. Complete overlap of read-write-compute.							
IBM 7090	80	200-556	62.5K		250R 100P		150
-- Card and print editing with panel. Automatic checking, full tape checking. Multiple read-write-compute using a 7606 Multiplexor and up to eight 7607 Data Channels.							
IBM 7094	80	1333	170K		250R 100P		150
-- Card and print editing with panel. Simultaneous read-write-compute buffering. Disk files, teletype, remote inquiry, programmed transmission control.							
LGP-30	N					200R 20P	
-- No simultaneous calculating.							
Libratrol 1000	N				N	120R 15P	N
-- As a control computer, the primary outputs are analog signals and logging typewriters. Inputs are analog signals and contact closures primarily.							
Librascope 3000	1023	555.5	50K		200-800R 100P	350R	1000
-- Simultaneous read-write-compute. Model 210 X-Y plotter, CRT display. File subsystems carry 200 million characters of disk storage each.							
Litton C-7000	16				250R 100P	400R	300-600
-- Tape characteristics variable with application. Block transfer or single word completely buffered.							
L-3060			41K	960K	800R 250P		1000
-- Capable of handling real time command and control equipment.							
Monrobot XI	N					20R 10P	60
-- Up to 3 in/out devices can be attached. Typewriter. 16 columns/sec. card read.							
NCR 304	64	200	30K	86K	2000R 100P	1800R 60P	900
-- Automatic checking of cards and paper tape. Complete magnetic tape checking, including readback. In/out editing. Read-write on tapes simultaneously. Card and print buffered. Up to 4 MICR sorter-readers can be used, buffered if only 1 unit used. Printer skips blank lines at the rate of 4050 lines/min.							
NCR 310	20	200	15-30K			350R 1000R 110P	900
-- High speed printer (24 characters/line) is buffered. Automatic magnetic tape checking; tape editing. Magnetic ink character reader can read 750 MICR documents per minute.							

INPUT AND OUTPUT

NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
NCR 315	8	200-500	24-60	7KK	2000R 250P	1000R 110P	900
	-- Polysynchronous operation with demand interrupt permits simultaneous operation of a number of peripheral units. Automatic checking and editing facilities. 16 CRAM (magnetically encoded cards on a drum) random access memory (200m access time) units allow 240 postings per minute. Up to 4 buffered MICR sorter-readers can process 750 checks per minute.						
NCR 390	1	21	210	V	18R 18P	400R 15P	110
	-- "Magnetic Tape" refers to a magnetic document (magnetic tape affixed to the back of printed documents) unit. Automatic checking. Editing of punched cards and paper tape. Programmable printer allows for different column arrangements on multiple forms.						
PB 250	6	200	2-15K	1KK	400R	300R 1000R 110P	600
	-- Automatic checking of magnetic tape. No editing facilities. 15K characters/sec. Tape units are buffered for search, read, and write. 2K units not buffered. Voltage plotters, incremental plotters, A/D and D/A converters, high speed buffers, commutators, etc. may be added. Computer can handle many in/out devices.						
PDP-1	24	200	15K	2KK	100R 100P	400R 63P	600
	-- Simultaneous read-write-compute. Tape editing. 3 tape units (each with 16 tapes) can be operating simultaneously. Visual cathode ray tube displays, 10" or 5" precision. Light pen for use with CRT. Relay buffers, real-time clocks, A-D-A converters, multiplexers, drums, plotters available.						
PDP-4	N				100R 63P		
	-- Simultaneous read-write-compute possible. All input/output devices are buffered.						
Philco 2000-210	256	750	90K	2.4KK	2000R 100P 250P	1000R 500R 100P 60P	900
	-- Parity checking, editing. Tape is addressable and reads in both directions. 4 tape units can operate simultaneously with computation. The addition of a buffer permits simultaneous printing and card handling with the above. A real-time scanner, clock, and data link with another computer may be added.						
Philco 2000-211	256	750	90K	2.4KK	2000R 250P	1000R 100P	900
	-- Automatic checking; editing. Tape can be read in both directions and is addressable. 9 in/out devices can operate simultaneously, 4 can be magnetic tape units. A clock, interval timer, tape translator, and link with another computer may be added.						
Philco 2000-212	256	750	90K	2.4KK	2000R 250P	1000R 100P	900
	-- Tape reads in both directions. Automatic checking and editing. 9 input-output devices can operate simultaneously with computation. 4 of the 9 can be magnetic tape units. Real-time devices, IBM tape translator, clock, interval timer, and a data link system (communication between computers) can be added.						
RCA 301	14	333-667	10-66K		600R 100P	100-1000R 100P	1000
	-- Data Record Files available, up to five units with 4.5KK capacity each. Data Disc files available 22-176KK capacity. Read-compute, write-compute, or read-write simultaneously.						
RCA 501	62	333-667	33-66K		600R 200P	1000R 100-300P	600
	-- Tapes read in both directions. Read-compute, write-compute, or read-write simultaneously.						
RCA 601	63	333-800	33-120K		600R 100P	1000R 300P	1000
	-- Multiple read-write-compute.						

INPUT AND OUTPUT

NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
Recomp II	8	200	1.85K			600R 150P	
	-- No buffering. Magnetic tape search speed is 11K char/sec. Tape reads in both directions.						
Recomp III						10R 10P	
	-- 1 word buffer. Additional input/output built to customer specifications.						
RPC 4000	N					500R 300P	
	-- No simultaneous paper tape-compute.						
RPC 9000	120		52K		400R	500R 300P	1000 150
	-- Loops of tape serve as external data memory for the computer.						
RW 400	24		62K		2000R	300R	900
	-- Modular construction permits addition of many in/out devices and display systems. Multiple read-write-compute. Inter-module communication.						
RW AN/UYK-1	-- Specifications not received.						
SDS-910		200	15K		200R 100P	300R 60P	300
	-- Parallel (by word) input/output commands. Optional 2nd input/output buffer. Optional levels of priority to 1024 levels.						
SDS-920		556	41.7K		200R 100P	300R 60P	300
	-- See SDS-910.						
SEMA 2000					650R 200P	300R 30P	150
	-- SIM configuration permits programmable typewriter, adding machine, telephone, cash register, direct keyboard inputs and printed hard copy, punched paper tape and vocal readouts.						
Sylvania 9400	64		90K		2000R 250P	1000R 100P	900
	-- Multiple read-write-compute. Real-time channel with priority program interrupt and with an in/out rate of 250K characters/sec. Random access file may be attached. Magnetic tape has scatter read-write. 4 independent in/out processors with 64 devices each, available.						
Univac I	10	128	12.8K	137K	300R 120P	200R 50P	600
	-- Card and paper tape equipment is off-line via magnetic tape. Simultaneous read-write-compute. Typewriter. Automatic magnetic tape re-read check.						
Univac II	16	250	25K	420K	300R 120P	200R 50P	600
	-- Plugboard editing. Card and paper tape off-line via magnetic tape. Simultaneous read-write-compute. Typewriter.						
Univac III	38	1333 250	133K 25K	8.6KK .44KK	700R 300P	1000R 110P	700
	-- Programmed editing. Multiple read-write-compute. Card punching printer may be used.						
Univac 490	192	1027 250	175K 25K	6.5KK 1.4KK	700R 300P	1500R 350R 110P	700
	-- Automatic checking. Multiple read-write-compute. System adaptable to analog devices. A variety of specialized inquiry-answering devices available.						
Univac 1103A	10	128	12.8K	326K	120R 120P	200R 60P	600
	-- Card plugboard editing. Automatic card checking. 2 input-output registers. Tape reads in both directions. Typewriter.						

INPUT AND OUTPUT

NAME OF COMPUTER	MAGNETIC TAPE				PUNCHED CARDS	PAPER TAPE	PRINTER SPEED
	No. of Units	Tape Density Char/Inch	Tape Speed Char/Sec	Words/Tape	Cards/Min	Char/Sec	Lines/Min
Univac 1105	24	208	21K	846K	120R 120P	200R 60P	600
-- Simultaneous read-write-compute. Flexowriter output. Cathode ray tube output optional. Plotting feature on high speed printer. Off-line digital to analog devices available.							
Univac 1107	192	1000 250 125	120K	5.5KK 1.2KK	700R 300P	400R 100P 300P	700 600
-- Programmed editing, automatic checking. Complete simultaneous read-write-compute. System adapted to analog devices.							
Univac File Computer I	10	139	10K	200K	150R 150P	200R 60P	600
-- Plugboard control for cards, paper tape and printer. Tape is read in both directions and is checked by re-read. Sorting-collating device, typewriter, Randex Mass Storage are available. Multiple read-write-compute.							
Univac File Computer II	-- SEE Univac File Computer I						
Univac Larc	40	250 125	25K 12.5K	600K 300K		10R 10P	600
-- Input/output control is done by Processor, completely independent of computation. Almost any in/out device can be added to the system.							
Univac SS 80/90	10	250	25K	570K	600R 150P		600
-- Programmed editing and checking for card and print. Complete tape checks. Read-write-compute. Tape read and write cannot be overlapped. Randex Mass Memory and card punching printer available.							

III. COST AND USE

NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space -- Sq. Ft.	Air Cond. -- Tons	Percent Good Time
Alwac III-E	$2,400	$1,020-$3,600	$50,000-$80,000	7.4KW	35(computer)	85°F	95
-- Scientific, real-time, business. Computer is modular and extra units are easily added.							
Bendix G-15	$1,530	$1,485 and up	$49,500 and up	3.8KVA	100	N	96
-- Scientific and business. Intercom 500 and 1000, ALGO compilers. Modular construction. Two computers can be joined.							
Bendix G-20	$15,500	$8,750 and up	$390,000 and up	20KVA	600	6	
-- Scientific, real-time, business. SPAR, PAR, SNAP assemblies; ALCOM and COBOL compilers. Modular construction permits extra units to be added easily.							
Burroughs E-103	$1,000	$875-$1,200	$20,000-$30,000	220V	desk size		
-- Scientific and business use, desk size.							
Burroughs 205	$8,000 $5,760(3 yr.)	$4,622-$13,000	$79,000-$350,000	38KVA	1600	12	97
-- Scientific and business. Datacode compiler, STAR-0 assembly, ALGOL compiler, 604 simulator programs available. Peripheral equipment can be added on a modular basis.							
Burroughs 220	$17,000	$7,000-$35,000	$320,000-$1,200,000	45KVA	1600	12	95
-- Scientific, business. STAR 2B, assembly; ALGOL compiler. Computer built on a modular basis, extra memory and peripheral units easily added.							
Burroughs 200 Series		$3,750-$14,400	$185,000-$625,000		300-500		
-- Business. Assembly system, report generator, sort generator available.							

COST AND USE

NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space -- Sq. Ft.	Air Cond -- Tons	Percent Good Time
Burroughs 5000	$16,850	$13,000-$50,000	$550,000-$2,100,000	29KVA	625	6	
-- Scientific and business. Completely modular in memory, input/output channels and peripheral equipment. ALGOL and COBOL compilers. Built-in operating systems.							
CDC-160	$1,500		$60,000	.7KW	10		
-- Scientific and business. Power requirements are for the computer only. Desk size.							
CDC-1604	$34,000			7.5KW	47	25	
-- Power and floor space requirements refer to computer and console only.							
DDP-19	$3,500		$120,000 and up	1600W	8.2	N	99
-- Scientific, real time. Modular construction allows additional equipment to be easily added. Programming aids.							
DE-60	$625	$525-$725	$20,000 and up	115V	8.4	N	98+
-- Scientific, process control. Desk size, 30" x 36". Hardware allows algebraic statements. Modular construction allows extra units to be added easily. One day programmer training.							
GE 210	$14,000		$700,000	10KVA	1200	3	
-- One pass compiler, report generator.							
GE 225	$8,000		$400,000	10KVA	1200	3	
-- Assembly, GECOM compiler (COBOL), WIZ scientific compiler, ZOOM compiler.							
H-400	$8,700	$8,700-$12,000	$397,000	15KVA	600	5	
-- EASY assembly.							
H-800	$22,000	$12,000-$30,000	$980,000	30KVA	1400	7	
-- Argus assembly; Algebraic and Data Proc Fact compiler.							
HW-15K			$15,000-$25,000	110V		N	
-- Real-time. Assembler available.							
IBM Ramac 305	$3,600	$2,875 and up	$167,850 and up	12.6KVA	370	4	
-- Business. Extra units easily added; computer built on a modular basis. 305 assembly program. Prices exclude tax.							
IBM 650	$6,000	$3,750-$21,500	$182,400-$1,100,000	18KVA	150	5	
-- Scientific, business. SOAP assembly. Extra units easily added. Prices exclusive of tax.							
IBM 704	$35,000		$400,000 and up	110KVA	2200	45	
-- Scientific, real-time, business. Computer built on a modular basis; extra units easily added. UASAP and FORTRAN compilers. Prices exclude tax.							
IBM 705III	$42,000	$28,000-$50,000	$1,400,000-$2,500,000	85KVA	1500-2000	15-20	
-- Business and limited scientific. COBOL, PRINT, Autocoder III compilers. Modular construction; extra units easily added. Prices exclude tax.							
IBM 709	$55,2000		$2,630,000 and up	150KVA	3000	50	
-- Scientific, real-time, business. Compilers: IBM SOS, SHARE, FAP, FORTRAN. Modular construction; extra units easily added. Prices exclude tax.							
IBM 1401	$6,500	$2,475 and up	$125,600 and up	7-16KVA	450	3.5	
-- Scientific, business. SYMBOLIC, Autocoder assemblies; FORTRAN compiler. 7KVA without tape units. Prices exclusive of tax. Extra units easily added.							
IBM 1410	$8,000	$5,365 and up	$244,550 and up	29KVA	500	5	
-- Scientific, real-time, business. Basic Autocoder assembly; FORTRAN compiler. Extra units are easily added. Prices exclude tax.							
IBM 1620	$1,600	$1,600-$5,000	$74,500-$200,000	15A, 230V	22	N	
-- Scientific, real-time. FORTRAN, GOTRAN compilers. Symbolic Assembly Program. Floor space refers to computer area only. Extra units easily added. Prices exclude tax.							
IBM 7040	$11,850		$625,600	13.9KVA	1220	2.5	
-- Scientific, real-time, business. Assembly and compiler programs: FORTRAN, COBOL, 7090 simulator.							
IBM 7044	$21,850		$1,400,000	19KVA	1220	4	
-- Scientific, real-time, business. Assembly and compiler programs: FORTRAN, COBOL, 7090 simulator.							

COST AND USE

NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space -- Sq. Ft.	Air Cond -- Tons	Percent Good Time
IBM 7070	$24,000		$1,077,400	45KVA	1200	6	
	-- Scientific and business. 7070 Basic Autocoder, Autocoder, Four-Tape Autocoder, Basic Fortran, IOCS compilers. Extra units easily added; computer built on modular basis. Program compatability with 7072, 7074. Prices exclude tax.						
IBM 7072	$19,025		$860,550	45KVA	1200	6	
	-- Scientific. FORTRAN, AUTOCODER compilers. Program compatability with 7070, 7074. Extra units are easily added; computer is built on a modular basis. Prices exclude tax.						
IBM 7074	$29,3000		$1,284,350	45KVA	1200	6	
	-- Scientific. IOCS, FORTRAN, AUTOCODER compilers. Computer built on a modular basis; extra units easily added. Prices exclude tax. Program compatability with 7070; 7072.						
IBM 7080	$55,000	$45,000-$70,000	$2,100,000-$3,200,000	50KVA	1000-2000	7.5-10	
	-- Business and limited scientific. Autocoder III, FORTRAN compilers. Modular construction; extra units easily added. Prices exclusive of tax and off-line 1401.						
IBM 7090	$64,000		$2,898,000	35KVA	1400	25	
	-- Scientific, real-time, business. Assembly and compiler programs: IBM SOS, SHARE, FORTRAN, FAP, and Commercial Translator. Prices exclude tax.						
IBM 7094	$70,000		$3,134,500	36KVA	1400	25	
	-- Scientific, real-time, business. Assembly and compiler programs: FORTRAN, COBOL, COMTRAN, I/O, Package, Monitor, Assembly.						
LGP-30	$1,300	$1,100-$2,000	$49,500				
	-- Business and scientific. Desk size.						
Libratrol 1000			$97,400-$250,000	110V, 20A		N	99+
	-- Real-time, industrial control. Computer cabinet is 48" x 28". Computer comes furnished with its own refrigeration system. The assembly and compiler programs of the Royal McBee RPC 4010 are compatible. Computer is built on a modular basis.						
Librascope 3000	$50,000	$25,000 and up	$1,000,000 and up	25KW	1200		99
	-- Scientific, real-time, business, command and control operation, management information system. Assembly and compiler programs: ATCOM, BUS, COBOL(1963), LAP 3055.						
Litton C-7000				1-6KW	2.5		
L-3060				156KW			
	-- Scientific, business, real-time. Multiple computers permit problem sharing.						
Monrobot XI	$700		$24,500	850W	desk	N	
	-- Business. Uses wall outlet. 375 lbs., 48" x 22" x 28".						
NCR 304	$15,000	$12,500-$30,000	$500,000-$1,250,000	45KVA	1800	12	95-99
	-- Scientific, business. Extra units are easily added. NEAT compiler.						
NCR 310	$2,450	$1,600-$6,500		310-750W		N	99
	-- Scientific, business. Control sorting of MICR documents. 6' x 30" computer area, with extra 3' front and back clearance. OSAP assembly. Extra units are easily added.						
NCR 315	$8,500	$4,400-$27,000	$240,000-$1,000,000	27KVA	1200	15	
	-- Scientific, real-time, business. Modular construction permits extra units to be easily added. NEAT and COBOL compilers.						
NCR 390	$1,725	$1,395-$1,850	$56,300-$75,000	220V	100	N	98.5
	-- Business, engineering.						
PB 250	$1,400	$1,200-$5,000	$39,500-$100,000	55-115W	4	N	99+
	-- Scientific, real-time, control. Floor space referred to is for computer only. Modular construction permits extra units to be added easily. SNAP assembly program, NELIAC compiler.						
PDP-1			$120,000-$1,200,000	115V	200	N	97
	-- Scientific, real-time, business. Floor space refers to computer and console only. Modular construction, and units easily added. DECAL algebraic assembler and compiler. Tape transports require 1/2T of air conditioning each.						
PDP-4			$52,000-$150,000	115V	100	N	
	-- Scientific, real-time.						

COST AND USE

NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space -- Sq. Ft.	Air Cond. -- Tons	Percent Good Time
Philco 2000-210	$35,000	$27,500-$66,000	$1,250,000-$2,500,000	24KVA	800	10-12	99
-- Scientific, business, real-time. Computer is built on a modular basis and extra units are easily added. TAC and ALTAC compilers.							
Philco 2000-211	$40,000	$30,000-$66,000	$1,500,00C-$2,900,000	24KVA	1300	10-12	99
-- Scientific, business, real-time. Computer built on a modular basis and extra units are easily added. TAC, ALTAC, COBOL compilers.							
Philco 2000-212	$58,000	$47,000-$79,000	$2,000,000-$3,500,000	40KW	1300	10-12	99
-- Scientific, real-time, business. Extra units are easily added. TAC, ALTAC, COBOL compilers.							
RCA 301	$5,000	$3,600-$10,000	$268,000	19KVA	400	4	
-- Business, scientific. Assembly program, COBOL compiler.							
RCA 501	$16,000	$11,000-$26,000	$1,000,000	30KVA	1200	8	
-- Business. Assembly and compiler programs.							
RCA 601	$32,000	$24,000-$68,000	$1,750,000	55KVA	900	12	
-- Assembly program and COBOL compiler.							
Recomp II	$2,495	$2,495	$95,000	110V	45	N	98.5
-- Scientific, real-time, business. SALT compiler, 3 assembly programs. Extra units easily added.							
Recomp III	$1,495	$1,495	$65,000	110V	38	N	
-- Scientific, real-time, business. Assembly program available on request.							
RPC 4000	$1,900	$1,800-$4,500	$87,000	120V	50		
-- Business and scientific. Desk size.							
RPC 9000	$4,500	$2,500-$10,000	$120,000	120V	400		
-- Business and scientific. Assembly and compiler programs.							
RW 400	$50,000	$10,000 and up			1800		
-- Complete modular construction. Extra computers, in/out may be added. Off-line displays available also.							
RW AN/UYK-1	-- Specifications not received.						
SDS-910	$1,450		$41,000	.7KW	5	N	
-- Scientific, real-time. Assembler and FORTRAN II for either computer.							
SDS-920	$2,500		$89,000	.9KW	9	N	
-- Same as SDS-910							
SEMA 2000	$700	$550-$1150	$22,500-$46,500	115V	4	N	97
-- Real-time, business.							
Sylvania 9400	$67,000	$55,000-$90,000					
-- Specifications not received.							
Univac I	$25,000	$20,000-$30,000					
-- Scientific, real-time, business. Assembly programs: FLOW-MATIC, MATH-MATIC, FLEXI-MATIC, XI.							
Univac II	$28,000	$25,000-$30,000	$1,250,000-$1,500,000	120KVA	2000	30	
-- Scientific, business. FLOW-MATIC, MATH-MATIC, XI assembly programs.							
Univac III	$22,500	$15,000-$30,000	$720,000-$1,440,000	52KVA	1850	12	
-- SALT assembly system, COBOL compiler.							
Univac 490	$25,000	$18,000 and up	$810,000 and up	61KVA	196	12	
-- Scientific, real-time, business. Extra units easily added. COBOL, SPURT compilers. Floor space requirements refer to computer area.							
Univac 1103A	$35,000	$21,500-$45,000	$922,000-$1,900,000	82KVA	1800	20	
-- Scientific. Extra units easily added. USE, UNICODE compilers.							
Univac 1105	$43,000	$33,060-$55,000	$1,612,000-$2,700,000	175KVA	3100	35	
-- Scientific, real-time, business. AIMACO and UNICODE and USE compilers. Extra units easily added.							

COST AND USE

NAME OF COMPUTER	Average Monthly Rental	Monthly Rental Range	One-Sum Price Range	Power	Floor Space -- Sq. Ft.	Air Cond -- Tons	Percent Good Time
Univac 1107	$50,000	$40,000-$60,000	$1,800,000-$2,700,000	93KVA	1200	18	
	-- Scientific, real-time, business. ALGOL, FORTRAN compilers.						
Univac File Computer I	$15,000	$18,000-$21,000	$384,000-$1,108,000	75KVA	1400	60	
	-- Scientific, real-time, business. FLAP assembly system.						
Univac File Computer II	-- SEE Univac File Computer I						
Univac Larc	$135,000	$135,000 and up	$7,000,000 and up	350KVA	3000	90	
	-- Scientific, business, real-time. Second computer unit can be added. SAL assembly.						
Univac SS 80/90	$8,000			15KVA	800	4	
	-- Scientific and business. Extra units easily added. Assembly programs: COBOL, SOUP II, UNITRAN, PROGENY compilers. STEP is a modular version of the Solid State 80/90, for users not requiring a full system.						

See Addendum on page 156

CALENDAR OF COMING EVENTS

June 11-July 20, 1962: Summer Institute on Advanced Topics in the Computer Sciences, Computation Center, University of North Carolina, Chapel Hill, N. C.; contact Dr. John W. Carr, III, Computation Center, University of North Carolina, P. O. Box 929, Chapel Hill, N. C.

June 18-Sept. 14, 1962: Engineering Summer Conference Courses, Univ. of Mich., Ann Arbor, Mich.; contact Raymond E. Carroll, Univ. of Mich., 126 West Engineering Bldg., Ann Arbor, Mich.

July 17-18, 1962: Rochester Conference on Data Acquisition and Processing in Medicine and Biology, University of Rochester Medical Center, Rochester, N. Y.; contact Mr. Kurt Enslein, University of Rochester, Rochester 20, N. Y.

July 18-19, 1962: Data Acquisition & Processing in Medicine & Biology, Whipple Auditorium, Strong Memorial Hospital, Rochester, N. Y.; contact Kurt Enslein, Brooks, Inc., 499 W. Comm. St., P. O. Box 271, E. Rochester, N. Y.

August 9-11, 1962: Northwest Computing Association Annual Conference, Seattle, Wash.; contact Robert Smith, Conference Director, Box 836, Seahurst, Wash.

Aug. 21-24, 1962: 1962 Western Electronic Show and Convention, California Memorial Sports Arena and Statler-Hilton Hotel, Los Angeles, Calif.; contact Wescon Business Office, c/o Technical Program Chairman, 1435 S. La Cienega Blvd., Los Angeles 35, Calif.

Aug. 27-Sept. 1, 1962: 2nd International Conference on Information Processing, Munich, Germany; contact Mr. Charles W. Adams, Charles W. Adams Associates, Inc., 142 the Great Road, Bedford, Mass.

Sept. 3-7, 1962: International Symp. on Information Theory, Brussels, Belgium; contact Bruce B. Barrow, Postbus 174, Den Haag, Netherlands

Sept. 3-8, 1962: First International Congress on Chemical Machinery, Chemical Engineering and Automation, Brno, Czechoslovakia; contact Organizing Committee for the First International Congress on Chemical Machinery, Engineering and Automation, Vystaviste 1, Brno, Czechoslovakia.

Sept. 19-20, 1962: 11th Annual Industrial Electronics Symposium, Chicago, Ill.; contact Ed. A. Roberts, Comptometer Corp., 5600 Jarvis Ave., Chicago 48, Ill.

Oct. 2-4, 1962: National Symposium on Space Elec. & Telemetry, Fountainbleu Hotel, Miami Beach, Fla.; contact Dr. Arthur Rudolph, Army Ballistic Missile Agency, R & D Op. Bldg. 4488, Redstone Arsenal, Ala.

Oct. 8-10, 1962: National Electronics Conference, Exposition Hall, Chicago, Ill.; contact National Elec. Conf., 228 N. LaSalle, Chicago, Ill.

October 15-18, 1962: Conference on Signal Recording on Moving Magnetic Media, The Hungarian Society for Optics, Acoustics and Cinetechnics, Budapest, Hungary; contact Optikai, Akusztikai, es Filmtechnikai Egyesulet, Szabadsag ter 17, Budapest V, Hungary

Oct. 30-31, 1962: Conference on Eng. Tech. in Missile & Spaceborne Computers, Disneyland Hotel, Anaheim, Calif.; contact William Gunning, EPSCO-West, 240 E. Palais Rd., Anaheim, Calif.

Nov. 5-7, 1962: 15th Annual Conf. on Elec. Tech. in Medicine and Biology, Conrad Hilton Hotel, Chicago, Ill.; contact Dr. J. E. Jacobs, 624 Lincoln Ave., Evanston, Ill.

Nov. 13-15, 1962: NEREM (Northeast Res. & Engineering Meeting), Boston, Mass.; contact NEREM-IRE Boston Office, 313 Washington St., Newton, Mass.

Dec. 4-5, 1962: Eastern Joint Computer Conference, Bellevue-Stratford Hotel, Philadelphia, Pa.

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- The Rule About Semicolons and Commas
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- Ten Basic Formulas of Integration

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- The Daisy Petal Machine
- Calvin's Eenie Meenie Minie Moe Machine
- The Cider Pouring Problem
- The Mysterious Multiples of 76923, of 369, etc.
- Bruce Campbell's Will
- The Fox, Hen, Corn, and Hired Man
- The Uranium Shipment and the Space Pirates
- General Alarm at the Fortress of Dreadeerie
- The Two Suspicious Husbands at Great North Bay
- The Submarine Rescue Chamber Squalux
- The Three Monkeys who Spurned Evil
- Signals on the Mango Blossom Special
- The Automatic Elevator in Hoboken
- Timothy's Mink Traps
- Josephine's Man Trap
- Douglas Macdonald's Will
- Word Puzzle with TRICK

QUIZ MACHINES
- The Waxing and the Waning Moon
- Intelligence Test
- Guessing Helen's Age
- Geography Quiz
- Mr. Hardstone's Grammar Test
- Solving Right Triangles

SIGNALING MACHINES
- The Jiminy Soap Advertising Sign
- The Sign that Spells Alice
- Tom, Dick, and Harry's Private Signaling Channels
- Jim's and Ed's Intercom

CRYPTOGRAPHIC MACHINES
- Secret Coder
- Secret Decoder
- Lock with 65,000 Combinations
- Lock with 15,000,000 Combinations
- The General Combination Lock
- Leonard's Two-Way Coding Machine

. . . AND MANY MORE

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My name and address are attached.

SURVEY OF COMMERCIAL ANALOG COMPUTERS

Neil Macdonald
Assistant Editor
Computers and Automation

Following is a survey of commercial analog computers, based on returns from a current mailing and information previously published in "Computers and Automation". The editors will be glad to receive any additional entries, corrections, or comments for publishing in an early issue of "Computers and Automation".

Nearly all the abbreviations used in these summaries are like those used in a telephone book--contractions of words of such a kind that the words can be easily guessed, especially if the reader refers to the survey form summarized. "*C" means "checked by the organization"; "62" means "in 1962", etc.

REPLY FORM (may be copied on any sheet of paper)

1. Name of Analog Computer:_____
2. Typical field(s) of application: ( )Scientific ( )Business ( )Real-time ( )Not real-time ( )Other (please describe)_____
3. Accuracy of numerical information the machine will take in and put out, in number of significant figures: ( )2 ( )3 ( )4 ( )5 ( )other (please describe)_____
4. Number of physical variables that the machine can store at one time:_____
5. Number of units in the computer for performing mathematical operations (OK to give maximum in largest existing installation): a. Adders:____ b. Multipliers:_____ c. Integrators:_____ d. Arbitrary functions:_____ e. Branching operations:_____ f. Other (please explain):
6. Programming: a. Automatic programming of new problem when a problem changes? ( )Yes ( )No b. Typical amount of time needed to change from one program to another:_____
7. Input-Output: a method of giving information or problems to the machine:_____
8. Reliability: a. Automatic checking? ( )Yes ( )No b. Typical operating percent (good time DIVIDED BY attempted-to-run time):_____%
9. Price range: a. One sum: between $_____ and $_____ b. Monthly rental: between $_____ and $_____
10. Sales: a: Number sold or rented:_____; b. Number on order:_____
11. Any remarks?_____

This data supplied by:_____
Title_____ Date_____
Organization_____
Address_____

When filled in, please send this form to COMPUTERS AND AUTOMATION, Berkeley Enterprises, Inc., 815 Washington St., Newtonville 60, Mass.

Card Programmed Diode Function Generator / for scientific problems, real-time or not / ACCUR: 4 signif figures / CAPAC: store Y = F(X) physical variables / LARGST INSTLN: function generators, 75 / no autom prgmg of a new problem when the problem changes; 10 second changeover / IN-OUT: punched card / RELIAB: no autom checkg; operg ratio, 99.95% / sale, $3000 to $225,000 / This is the only function generator allowing most instlns to program non-linear functions as rapidly as the removable patch panel allows them to program the remainder of the computer / General Computers, Inc., 9000 W. Pico Blvd., Los Angeles 35, Calif. / *C 62

CM-3 (Special Purpose) Computer / scientific, real-time / ACCUR: 3 signif figures / CAPAC: any number / ADDERS: 18 / MULT: 4 / Other: 5 function generators, 4 level detectors / PRGMG CHANGEOVER: may be incorporated by switch selection / IN-OUT: analog instrumentation (in process) / RELIAB: operg ratio, 99.9% / sale, $8,000 to $15,000 / sold or rented: 11; on order: 1 / utilizes solid state components such as magnetic amplifiers and transistors and semiconductors / Dresser Electronics, SIE Div., 10201 Westheimer Rd., Houston 42, Tex. / *C 62

Desired Generation Computer / for electric power utilities automatic dispatch / ACCUR: 2 signif figures / CAPAC: store 1000 variables (actually no limit) / ADDERS: 10 / MULT: 4 / INTEGRATORS: 4 / ARBIT FUNCT: square, square root / PRGMG CHANGEOVER: 1 to 15 min / IN-OUT: AC-voltages / RELIAB: has autom checking; operg ratio 95% / sale $50,000 to $500,000 / sold or rented, 17; on order, 7 / Tied into automatic process control directly / Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia 44, Pa. / *C 62

DIAN 60, 120, 180, etc. / for scientific problems, real-time or not / ACCUR: 5 signif figures / CAPAC: store 200 physical variables or more / LARGST INSTLN: 450 adders, 70 multipliers, 200 integrators, 200 to 300 branching operations, also function generators (noise generators) / autom prgmg of a new problem when a problem changes; time needed depends on size of problem -- from a few minutes to an hour / IN-OUT: function generators, input-output tables, noise generators / RELIAB: has autom checkg; operg ratio, 99% to 100% / sold or rented; prices available on specific request / Dian Laboratories, Inc., 611 Broadway, New York 10, N.Y. / *C 62

Direct Analog Computer / for scientific problems, not real-time and other (design projects in heat transfer, static stress analysis, vibration, aeroelasticity) / ACCUR: 3 signif figures / CAPAC: store 50 to 200 physical variables / LARGST INSTLN: 40 multipliers; 100 amplifiers, each of which may be adder, integrator, or current generator; 150 inductors; 200 capacitors; 200 resistors; 200 transformers; decade-set, passive elements employed in simulation of physical systems by means of passive-element networks / no autom prgmg of a new problem when the problem changes; 2 days to convert entire computer from one problem to another, and make all checks / IN-OUT: Input -- parameters: decade settings, potentiometers; variables: function generators, switching eqpmt, oscillators. Output -- transient: oscilloscope, camera, graphic level recorder; steady state: digital volt meter, autom printer / RELIAB: has autom checkg / sale, $150,000 to $750,000 / sold or rented, 10 / Computer is used for modeling complicated physical systems (thermal and mechanical). Simulation is rapid, with representation over the frequency range 50 to 2000 cycles per sec / Computer Engineering Associates, 350 N. Halstead, Pasadena, Calif. / *C 62

Donner 3200 / scientific; real time or high speed iterative / ACCUR: 0.01% / CAPAC: up to 24; 10 to 100 Amplifier, modules / ADDERS: 48 / MULT: up to 16 / INTEGRATORS: 24 / other: 120 potentiometers / ARBIT FUNCT: up to 12 / PRGMG: autom by removable problem board; changeover, 1 min. / IN-OUT: problem board and coefficient pot settings / RELIAB: autom checking; operg ratio, 75% / sale, $5,000 to $100,000 / rental on request / sold or rented, 12; on order, 12 / Systron-Donner Corp., Donner Div., 888 Galindo St., Concord, Calif. / *C 62

Dystac® 5800 Iterative Analog Computer / for scientific problems, real-time and not, and other (general purpose analog computer with digital capabilities) / ACCUR: 4 signif figures / CAPAC: store 34 variables / LARGST INSTLN: 36 adders, 30 multipliers, 34 integrators, 5 servos, 20 direct function generators, 8 comparators / when the problem changes, change patch boards, function switches, and quadrant control / IN-OUT: manual set, punch tape, card, digital, etc. / RELIAB: has autom checkg; operg ratio, 95% / sale, $20,000 to $100,000; rental, $2000 to $20,000 / sold or rented, 17; on order 6 / Computer Systems, Inc., Culver Rd., Monmouth Junction, N.J. / *C 62

EASE (Electronic Analog Simulating Equipment), 2100 Series / scientific; real-time and other (on-line hardware) / ACCUR: 4 signif figures / AMPLIFIERS: 168 / MULT: 72 / INTEGRATORS: 72 / ARBIT FUNCT: 24 / 6 electronic sine generators, 340 coefficient potentiometers / PRGMG: autom changeover, 10 min / IN-OUT: "DO/IT" (Digital Output-Input Translator), patchboard, and paper tape; also direct push-button entry / RELIAB: has autom checkg; operg ratio 90-95% / sale, $30,000 to $300,000 / Beckman Instruments, Inc., Berkeley Division, 2200 Wright Ave., Richmond 3, Calif. / *C 62

Electronic Associates HYDAC 2000 / scientific, business, real time or not; a hybrid machine with diverse uses / ACCUR: 4 signif figures / CAPAC: 10,000 words / Other: a complete line of analog computers plus digital, logic, memory, and arithmetic / PRGMG CHANGEOVER: autom prgmg; 20 min. / IN-OUT: paper tape, keyboard, typewriter, hand patch, patch panel / RELIAB: has autom checking; operg ratio, 95% / sale, $75,000 to $1,000,000 / sold or rented, 2 / analog and digital operations all in one computer / Electronics Associates, Inc., North Long Branch, N.J. / *C 62

Electronic Associates PACE 231R / scientific; real time; slower than real time or high speed repetitive operation / ACCUR: 4 signif figures / CAPAC: store 30 variables / ADDERS: 45 / MULT: 50 / INTEGRATORS: 30 / Other: dividers, resolvers, function generators, limiters, comparitors also avail / PRGMG CHANGEOVER: 10 min. / IN-OUT: punched paper tape, keyboard, hand, typewriter, patch paper / RELIAB: has automatic checking; operg ratio, 95% / sale $20,000 to $1,000,000 / rental $9,100 to $50,000 / sold or rented or on order, 300 / a medium to large .01% general purpose analog computer / Electronic Associates, Inc., North Long Branch, N.J. / *C 62

Electronic Associates TR-10 / scientific; real-time or not real-time / ACCUR: 3 signif figures / CAPAC: store 8 to 12 variables / ADDERS: 12 / MULT: 9 / INTEGRATORS: 10 / ARBIT FUNCT: 9 / Other: dividers, function generators, coefficient pots, function storage, comparitors also avail / PRGMG: no autom changeover; 20 min changeover time / IN-OUT: hand patch panel / RELIAB: has autom checkg; operg ratio, 99% / sale, $4000 to $11,000 / sold or rented, 200 / a solid state portable machine, 20 amplifiers / Electronic Associates, Inc., North Long Branch, N.J. / *C 62

Electronic Associates TR-48 / scientific; real-time or not real-time / ACCUR: 3 signif figures / CAPAC: store 8 to 12 variables / ADDERS: 12 / MULT: 9 / INTEGRATORS: 10 / ARBIT FUNCT: 9 / Other: resolvers and fixed function generators also avail / PRGMG: no autom changeover; 15 min. changeover time / IN-OUT: patch panel / RELIAB: has autom checkg; operg ratio, 90% / sale, $8,000 to $35,000 / rental, $400 to $1,750 / sold or rented, 12 / a solid state table top computer; equipped for iteration or sequential calculation; comes with mobile desk / Electronic Associates, Inc., North Long Branch, N.J. / *C 62

ESIAC / for scientific problems, not real-time and other (operates in frequency domain; used in feedback system design) / ACCUR: 2 signif figures / CAPAC: store 50 physical variables / computer is a potential field analog of a unique design / when the problem changes, time needed to change program normally 15 minutes / IN-OUT: uses direct pole-zero prgmg, plots root loci on graph paper / RELIAB: no autom checkg / sale, $9800; rent, $350 to $600 / sold or rented, 15; on order, 2 / Electro Scientific Industries, 7524 S.W. Macadam Ave., Portland, Ore. / *C 61

GPS Iterative Analog Computer / scientific, business, not real time, compressed time / ACCUR: 4 signif figures / CAPAC: depends on no. of memory units used / UNITS: 20 sample-holds; 24 electronic switches; 12 comparators / PRGMG CHANGEOVER: 2 to 4 hrs / IN-OUT: magnetic tape input or output; scope or X-Y plotter readout / RELIAB: operg ratio, 95% / sale, $35,000 to $350,000 / rental, $4,500 up / sold or rented, 4; on order, 2 / features broadhand operation with one microsecond switching rate / GPS Instrument Co., Inc., 180 Needham St., Newton, Mass. / *C 62

GPS Statistical Analog Computer / scientific, business, not real time, compressed time / ACCUR: 4 signif figures / ADDERS: 80 / MULT: 48 / INTEGRATORS: 48 / other: function generators 24 / PRGMG CHANGEOVER: 2 to 4 hrs / IN-OUT: digital counter readout / RELIAB: operg ratio 95% / sale, $20,000 to $200,000 / rental, $4,500 up / sold or rented, 44; on order, 7 / broadhand operation based on compressed time scale of 3,000 to 1 / GPS Instrument Co., Inc., 180 Needham St., Newton, Mass.

Gravity Analog Computer / for scientific problems and potential field studies / ACCUR: 3 signif figures / CAPAC: store 1 variable / UNITS: optical

SURVEY OF SPECIAL PURPOSE COMPUTERS AND DATA PROCESSORS

Neil Macdonald
Assistant Editor
Computers and Automation

Besides general purpose digital and analog computers, there are special purpose computers. Examples of them are:

Travel reservations machines
Simulators
Automatic training devices
Spectroscopic analysis equipment
Process industry plant flow analyzers
Geophysical seismic readers and profile plotters
Digital differential analyzers
Automatic bookkeeping machines
Information retrieval systems
Power company network analyzers
Airborne digital computers
Flight control computers
Machine tool control systems
Automatic elevator control systems
Remote control telemetering systems
Telemetered data reduction systems
Automatic graph readers
Air traffic control computers
Early warning analysis and response systems
Fire control computers
Automobile traffic light controllers
Automatic railway traffic controllers
Automatic data sampling systems
File-searching machines
Inventory machines
Automatic navigating systems
Character reading and recognizing systems
Telephone message accounting systems
Test scoring machines
Programmable electric typewriters

Following is a roster of organizations making special purpose computers and a description of their computers. The responses are reported in relation to the following reply form.

SURVEY OF SPECIAL PURPOSE COMPUTERS and DATA PROCESSORS -- REPLY SHEET

1. Brief description of the types of special purpose computers and data processors that you currently market?

Type	Purpose	Price Range

(attach more paper if needed)

2. In your opinion which types of these machines will become the most important, will represent the largest growth areas, for our industry in the next few years?

_____

_____

3. a) Do you also supply general purpose computers and data processors?_____

b) If so, what would be your estimate of the approximate percent of your special purpose machines produced to all your data-handling machines produced? _____%.

4. Any remarks?_____

_____

_____

5. Number of employees?_____

6. Year established?_____

Filled in by_____ Title_____

Date_____

Organization_____

Address_____

Any additions, corrections and comments are welcome.

Aircraft Armaments, Inc., Cockeysville, Md. / SPEC PUR: Air Traffic Control Simulator, to develop and evaluate air traffic control procedures (price dependent upon requirements); Anti-Submarine Warfare Trainer, to train anti-submarine fire control crews (price dependent upon requirements); Radar Target Simulator, to evaluate overall performance of airborne radar equipment ($30,000 to $40,000) / GEN PUR: none / Ls(805) Me(1950) / *C 62

Allegany Instrument Co., Div. of Textron Electronics, Inc., 1091 Wills Mt., Cumberland, Maryland / SPEC PUR: Type K ballistic computer, for measurement of rocket motor force and pressure parameters ($15,000-$100,000); Autocal-Automatic Transducer Calibrator, for dynamic calibration of strain gage pressure cells ($50,000-$200,000); high rate tester, for measurement of tensile and compressive properties of solid propellants; K-7 error computer, for parameter resistences on strain bridge circuitry / Ms(200) Se(1952) / *C 62

Automation Management, Inc., 25 Brigham St., Westboro, Mass. / SPEC PUR: Sampling performance computer to compute and record efficiency of a machine during a short period of time ($490). Cumulative performance computer to compute and record the efficiency of a machine since the beginning of its run ($490) / GEN PUR: none / Ss(3) Se(1955) / *C 61

Bailey Meter Co., 29801 Euclid Ave., Wickliffe, Ohio / SPEC PUR: Bailey 755 system, for automation of power plants / GEN PUR: none / Ls(1500) Se(1960) / *C 61

Bendix Corp., Bendix Computer Div., 5630 Arbor Vitae St., Los Angeles 45, Calif. / SPEC PUR: simulators, for pre-flight design analysis or real-time monitoring ($200,000 up); digital differential analyzers, for solutions of equations ($13,700); strategic and tactical systems, for real-time military command and control; data gathering systems, for intelligence and surveillance networks; A-D on-line testers, for launch control and automatic checking / GEN PUR: G-15, G-20, G-21 digital computers / Ls(660) Se(1952) / *C 62

Burroughs Corp., 6071 2nd Ave., Detroit 32, Mich. / SPEC PUR: B250 ledger record processor ($5,000); B270 MICR proof-transit conversion ($10,000) / GEN PUR: yes / *C 62

Carlson Computer Co., 12411 Bethpage St., Poway, Calif. / SPEC PUR: TDA-2 analog computer, for temperature distribution, stress analysis, heat transfer, thermal conductivity, magnetic and electrostatic fields, steamline fluid flow, geophysical studies ($685) / *C 62

Clary Corp., Computer Div., 408 Junipero St., San Gabriel, Calif. / SPEC PUR: Clary DAC-2500 Digital Arithmetic Counter, for process control, test, and instrumentation ($10,000) / GEN PUR: Clary DE-60, adaptable to spec pur (sale, $20,000; rental, $525-$725 mo.) / Ls(800) Me(1939) / *C 62

Computer Control Co., Inc., 983 Concord St., Framingham, Mass. / SPEC PUR: 210 digital data converter for translating data from (1) magnetic tape in Univac II excess three code, (2) paper tape in Univac II excess three code, and (3) punched cards in IBM (Hollerith) 12 level code; receives data in any of these three media and translates the data to the formats of either of the other two media. High speed stored program digital data processor for solving a wide range of scientific, engineering, and statistical problems, which cannot be economically handled by large-scale computers. DR-14 digital resolver for accurate high speed conversion from Cartesian to Polar to Cartesian coordinates. Universal tape to tape converter for converting output data into a magnetic tape with a format suitable for input to IBM 650 and 704, and Univac 1103A high-speed computers. SPEC, Stored Program Educational Computer, providing a laboratory and classroom tool for education, computation, and experimentation ($19,818 to $27,882) / GEN PUR: yes / Ms(260) Se(1953) / *C 61

Computer Systems, Inc., Culver Rd., Monmouth Junction, N.J. / SPEC PUR: Simulators for process control ($20,00 to $100,000). Missile range instrumentation for radar tracking ($15,000 to $250,000). Linear programmer ($10,000 to $75,000) / GEN PUR: yes / Ms(150) Me(1950) / *C 61

Delco Radio Div., General Motors Corp., 700 East Firmin St., Kokomo, Ind. / SPEC PUR: Spectral comparator computer for analyzing low frequency spectra. Vernier velocity control computer for missile guidance / GEN PUR: none / Ls(approx. 4500) Me(1936) / *C 61

Dian Laboratories, Inc., 611 Broadway, New York 12, N.Y. / SPEC PUR: reactor simulator for study of reactor kinetics; submarine dynamics simulator and flight simulator for training of personnel; process analyzer for automatic control of plants; navigating system for automatic tracking of missiles; (prices on request) / Ss(12) Se(1955) / *C 62

Dresser Electronics, SIE Div., 10201 Westheimer Rd., Houston 42, Tex. / SPEC PUR: CM-3 for closed loop process control ($8,000-$15,000); CM-3 for automatic gas compressor stations ($10,000-$18,000) / solid state circuitry employing magnetic amplifiers, semi-conductor diodes and transistors / Ls(650) Se(1956) / *C 62

Epsco, Inc., Advanced Concepts Engineering Div., 275 Massachusetts Ave., Cambridge 39, Mass. / SPEC PUR: Epsco Model 275 Controller-Processor Computer, a general purpose, digital design with application to on-line control systems ($68,000 for central processor; typical systems, $88,000 up) / GEN PUR: commercial model of the Epsco 275 / Available in early 1963 / Ms(500) Se(1954) / *C 62

Ferranti-Packard Electric Limited, Electronics Div., Data Systems Dept., 16 Industry St., Toronto 15, Ontario, Canada / SPEC PUR: Argus, for process control ($150,000-$450,000); FP 6000, for check sorting ($160,000 up); Gemini, for airline reservations ($500,000 to $1,500,000) / GEN PUR: FP 6000, ($160,000 up), Orion ($800,000-$2,000,000), Atlas ($4,000,000-$10,000,000) / Design and manufacture traffic control systems and large digital memory systems / Ms(360) Me(1949) / *C 62

Fischer and Porter Co., Warminster, Pa. / SPEC PUR: analog-to-digital recorder, records motion, elec. signals, or pulses versus time ($500-$2,000); ADR Telemeter, for remote control telemetering of above ($1,000 to $2,500); vehicle detector, for traffic count and signal control ($350-$600); millisecond operations rec., for sequence operations ($7,500-$30,000); traffic operation punch, for traffic counting ($600-$700) / GEN PUR: yes / Ls(1300) Me(1937) / *C 62

FMA, Inc., 142 Nevada St., El Segundo, Calif. / SPEC PUR: FMA File Search for information storage and retrieval / *C 61

Ford Instrument Co., 31-10 Thomson Ave., Long Island City, N.Y. / SPEC PUR: airborne digital computer for navigation; airborne analog computer for navigation; airborne analog, for guidance and control; fire control computer, for launching orders (Terrier, Tartar, and gun control); ground computer, for drone control; reactor control computer, for reactor control drives and indicators / Ls(2,000) Le(1915) / *C 62

General Automatics, Inc., 331 Alma St., Palo Alto, Calif. / SPEC PUR: Automatic merchandising systems and automatic charge systems for automatic handling of consumer credit purchases ($20,000 to $200,000). Automatic identity systems for automatic general purpose identity establishment ($50,000 to $500,000). Automatic library systems for automatic recording of subscription flow (approx. $10,000 per document). Automatic security systems for plant protection ($5000 to $25,000) / GEN PUR: none / Ss(15) Se(1953) / *C 61

General Dynamics/Electronics, Information Technology Division, P. O. Box 2449, San Diego, Calif. / SPEC PUR: Custom-made digital computers for tracking, guidance, and scientific purposes / GEN PUR: none / Ls(600) Se(1955) / *C 61

General Electric Co., Light Military Electronics Dept., French Rd., Utica, N.Y. / SPEC PUR: variable increment digital for missile guidance and launch; digital differential analyzer, for missile guidance; toss bomb and missile launch, for armament control; computer detector, for radar data display / All computers are for airborne military application / Ls(8,000) Se(1953) / *C 62

General Precision, Inc., Librascope Div., 808 Western Ave., Glendale 1, Calif. / SPEC PUR: AN-ASN-24 Airborne Navigation Computer, for aircraft navigation and space guidance; Centaur Guidance Computer, for guidance of Centaur spacecraft; CP-209 Airborn Bombing Navigation Computer, for Navy attack bombers; L-80 Airborne "Building Block" Com-

puter, for aircraft navigation and spacecraft guidance; L-70 airborne computer, for aircraft navigation and spacecraft guidance; Underwater Fire Control Group Mk 111, for fire control of Navy's ASROC anti-submarine weapon system; Underwater Fire Control System Mk 113, for submarine-based ASW fire control; Underwater Fire Control System Mk 114, for shipboard weapon control; Underwater Fire Control System Mk 105, for shipboard fire control of ASW weapons; Central Data processor for Air Traffic Control / GEN PUR: yes / Ls(4000) Me(1937) / *C 62

General Precision, Inc., Link Div., Binghamton, N.Y. / SPEC PUR: simulators for training; process industry plant flow analyzers for simulation; machine tool control systems for measurement; automobile traffic light controllers; automatic railway traffic controllers; character reading and recognition systems for document reading; automatic graph readers for data reduction; automatic training devices / Ls(2200) Me(1935) / *C 62

HRB-Singer, Inc., State College, Pa. / SPEC PUR: 100%: SEMA, inventory, distribution, table look-up (magnetic drum), as memory attachment for IBM punched card machines -- 402, 407, 088, etc. -- (sale, $20,000 to $40,000; rental $532 to $1100 per month). SIM, inventory (magnetic drum) for retail, warehouse, etc., 2000 to 20,000 words ($25,000) / GEN PUR: none / Ls(900) Me(1946) / *C 61

Industrial Nucleonics Corp., 650 Ackerman Rd., Columbus 2, Ohio / SPEC PUR: analog computer for computing and reading out process variance ($50,000-$80,000) / ?s Se(1951) / *C 62

Leeds and Northrup Co., 4901 Stenton Ave., Philadelphia 44, Pa. / SPEC PUR: automatic economic dispatch, for electric power distribution ($200,000-$300,000); performance computation and data logging, for steam power plants ($200,000-$300,000); efficiency control and data logging, for hydro-stations ($250,000-$350,000); automatic control computer for oxygen steel making process ($200,000-$300,000) / GEN PUR: analog and digital data handling and computing systems, available / Ls(3000) Le(1899) / *C 62

LFE Electronics, A Division of Laboratory for Electronics, Inc., 985 Commonwealth Ave., Boston 15, Mass. / SPEC PUR: SM-3 display system, for display of transaction data, stocks, reservations, inventory status, schedules, equipment status, etc. ($15,000-$60,000); RD-900 Random Access Storage and Display System, for indexing, situational and tabular displays ($100,000 up) / GEN PUR: yes / Ls(2,500) Me(1946) / *C 62

Litton Systems, Inc., Guidance and Control Systems Div., 5500 Canoga Ave., Woodland Hills, Calif. / SPEC PUR: radar computers and digital differential analyzers for determining ballistic trajectory information; incremental-type digital computers for navigation, weapon delivery, and aircraft cruise control; real-time computers for missile guidance; four-address per instruction work computer for industrial control and processing; digital computers for hyberbolic navigation, doppler dead reckoning, and inertial guidance of helicopters / Ls(7,500) Ss(1953) / *C 62

Minneapolis-Honeywell Regulator Co., Industrial Products Group, Wayne and Windrim Aves., Philadelphia 44, Pa. / SPEC PUR: Nuclear reactor simulator for training in nuclear reactor operation (approx. $17,000). Thermal plant simulator to solve nuclear design and operational problems; training device for nuclear power plant operation (approx. $21,000). Wave analyzer for data reduction $17,000 and up). Gas flow computer for measuring gas flows and correcting to standard conditions ($4000). Analog-digital recorder-transcriber for automatic data sampling ($30,000 and up). BTU meter for computing BTU formula in gas measurements ($1800 and up). Remote control telemetering system for telemetering and supervisory control ($500 and up). Fractionator reflex analog computer for calculating amount of internal reflux in distillation column ($1600). Analog computer using B-constant principle for economic dispatch of power system generation ($25,000 and up). Batch computers, analog type, systems blending liquids, solids, slurries. Special purpose analog computers for on-line control. Honeywell 290 general purpose industrial digital control computer for on-line data acquisition and control / *C 61

Navigation Computer Corp., Valley Forge Industrial Park, Norristown, Penn. / SPEC PUR: machine tool control systems, for tension and speed control; data translation systems, for format conversion; analog to digital converters and multiplexers; telemetering systems and timing generators for military use / prices on request / Ms(150) Se(1955) / *C 62

George A. Philbrick Researches, Inc., 127 Clarendon St., Boston, Mass. / SPEC PUR: General purpose electronic analog computers components put together by customers to make special purpose computers: correlation computers; simulators for missiles, jet planes, submarines, and other vehicles of all types; in-line process control equipment; simulators for nuclear power plants; Fourier analyzers; power measuring and control equipment; frost penetration computers; target simulators; computing instrumentation / GEN PUR: yes / Ms(under 500) Me(1947) / *C 61

Philco Corp., Government & Industrial Group, Computer Div., 3900 Welsh Rd., Willow Grove, Pa. / SPEC PUR: BASICPAC -- general purpose field data computer for military use. C-3000 control computer, small scale, for use in process control systems. Military computers for use in space vehicles, aircraft, and other military purposes, including simulation, automatic training devices, information retrieval, airport and flight control, traffic control, fire control, navigation, etc. / GEN PUR: yes / Ls(24,000) Le(1892, corporation; 1952, computer division) / *C 61

Rese Engineering, Inc., "A" and Courtland Sts., Philadelphia 20, Pa. / SPEC PUR: Finda-Fact, for data retrieval ($75,000) / GEN PUR: none / Ms(90) Se(1953) / *C 61

Sperry Gyroscope Co., Div. of Sperry Rand Corp., Great Neck, N.Y. / SPEC PUR: Miniature aerospace digital computers for aircraft, missile and space vehicle navigation, guidance and control. Airborne logic computers for situation evaluation and counter action. Flight control computers for automatic pilot flight control systems for aircraft. Automatic navigation systems for manned and unmanned navigation and bombing systems. Early warning analysis systems for national defense / Ls(17,000) Le(1910) / *C 61

Strand Engineering Co., P. O. Box 76, Ann Arbor, Mich., or 7300 Huron River Dr., Dexter, Mich. / SPEC PUR: digital display system for alphanumeric display ($50,000); symbol generator for character generation ($8,000); digital computer for neutron analysis; missile-borne digitizer for missile guidance system monitoring; airborne computer for navigation / GEN PUR: yes / Ms(74) Se(1955) / *C 62

- END -

AUTOMATIC COMPUTING MACHINERY — LIST OF TYPES

(Cumulative, information as of May 1, 1962)

The purpose of this list is to report types of machinery that may properly be considered varieties of automatic computing or data processing machinery.

Any comments, corrections, and proposed additions or deletions will be welcome.

Accounting-bookkeeping machines, which take in numbers through a keyboard, and print them on a ledger sheet, but are controlled by "program bars," which, according to the column in which the number belongs, cause the number to enter positively or negatively in any one of several totaling counters, which can be optionally printed or cleared.

Addressing machines, programmable, which take in names and addresses, either on metal plates or punch cards, and print the names and addresses on envelopes, wrappers, etc., and which may be controlled for selection and in other ways, by notches, punched holes, and other signals, on the plates or cards.

Air traffic control equipment (including ground control approach equipment), which takes in information about the location of aircraft in flight and gives out information or control signals for the guidance of the flight of the aircraft.

Aircraft airborne computers, for automatically controlling aircraft flight functions, programming fuel consumption, navigating, searching for targets, selecting target, and attacking.

Aircraft ground computers, for radar tracking and remote control of aircraft and anti-aircraft devices.

Analog computers, which take in numerical information in the form of measurements of physical variables, perform mathematical and logical operations, are controlled by a program, and give out numerical answers.

Analog-to-digital converters, which take in analog measurements and give out digital numbers.

Astronomical-telescope-aiming equipment, which adjusts the direction of a telescope in an observatory so that it remains pointed at the spot in the heavens which an astronomer intends to study.

Automobile traffic light controllers, that take in indications of the presence of motor cars from the operation of treadles in the pavement or in other ways, and give out signals, according to a program of response to the volume and density of traffic.

Ballistic computers, which take in data on a projectile as it is fired from a gun and make computations.

Card-to-tape converters, which take in information on punched cards, and put out corresponding or edited information on punched paper tape or on magnetic tape.

Character reading and recognizing systems, which scan a printed letter or digit, photoelectrically, optically, or magnetically, take in data about points, lines, and shapes, send the data through classifying circuits, identify characters, and activate output devices accordingly.

Color scanners, for automatic production of color separation negatives.

Correlation computers.

Data reduction systems, which take in large quantities of observed data and reduce them to small quantities of computed data.

Data sampling systems, which take in a continuous voltage or other physical variables and give out samples, perhaps once a second or perhaps a thousand times a second; this machine may be combined with an analog-to-digital converter, so that the report on the sample is digital not analog.

Desk calculating machines, including desk adding machines, which may take in numbers to be added, subtracted, multiplied, and divided, and put out results either shown in dials or printed on paper tape; such machines store one up to several numbers (but not many numbers) at one time, and may store a simple program such as automatic multiplication by controlled repeated addition and shifting.

Differential analyzers, which take in information specifying differential equations and boundary conditions, and solve the equations.

Digital computers, which take in numerical, alphabetic, and other information in the form of characters or patterns of yes-noes, etc., perform arithmetical and logical operations, are controlled by a program, and put out information in any form.

Digital-to-analog converters, which take in digital numbers and give out analog measurements.

Drafting machines, which take in information describing desired mechanical drawings and produce them to proper scale.

Early-warning systems, which detect by radar, in-

frared, or other means aircraft or missiles, distinguish friend from foe, determine flight patterns, and provide responses.

Elevator control systems, which accept calls by passengers, automatically control the movement of cars, door opening, and closing, and economize travel and power.

Error detecting and counting systems.

Facsimile copying equipment, which scans a document or picture with a phototube line by line and reproduces it by making little dots with a moving stylus or with an electric current through electrosensitive paper.

File-searching machines, which take in an abstract or a key in code, search for and find the reference alluded to, and provide a copy or other indication of the reference.

Fire control equipment, that takes in indications of targets from optical or radar perception and puts out directions of bearing and elevation for aiming and time of firing for guns, according to a program that calculates motion of target, motion of the firing vehicle, properties of the air, etc.

Flight control computers -- SEE Navigating and piloting systems for aircraft.

Flight simulators, which take in simulated conditions of flight in airplanes, and the actions of airplane crew members, and show the necessary results, all for purposes of training airplane crews.

Fourier analyzers, which take in complex wave forms and analyze them into constituent wave forms.

Game-playing machines, in which the machine will play a game with a human being, either a simple game such as tit-tat-toe or nim (which have been built into special machines) or a or a more complicated game such as checkers, chess, or billiards (which have been programmed on large automatic digital computers).

Geophysical seismic readers and profile plotters.

Graph readers, which automatically take in the positions of a graph or a curve on a sheet of paper, and give out coordinates to a computer.

Information retrieval devices -- SEE File-searching machines.

Inventory machines, which store as many as ten thousand totals in an equal number of registers, and will add into, subtract from, clear, and report the contents of any called-for register.

Machine tool control equipment, which takes in a program of instructions equivalent to a blueprint, or a small size model, or the pattern of operations of an expert machinist, and controls a machine tool so that a piece of material is shaped exactly in accordance with the program.

Machine tool data processors, which sense input, compute chip loads, and automatically vary the angular velocity of the work spindle to produce a uniform chip load.

Machine tool direction centers, which control machine tools and compute their operations.

Machine tool tape producing machines, which automatically prepare machine tool control tapes from blueprint data.

Materials handling systems, which will move heavy blocks, long rods, or other pieces of material to or from stations and in or out of machines, while taking in indications furnished by the locations of previous pieces of materials, the availability of the machines, etc., all depending on the program of control. (Example: automobile engine block automatic machining system)

Maze-solving machines, which will take in descriptions of mazes or labyrinths and determine, by trial and error or in other ways, the path to the goal.

Missile check-out computers, for examining, scanning, and inspecting missiles and signalling warnings.

Missile-control ground computers, for radar tracking and remote control of missiles and anti-missile devices.

Missile-control missile-borne computers, for issuing properly timed and conditioned commands for the proper functioning of the missile.

Missile-launching computers, for controlling the proper sequence of steps for the launching of the missile.

Navigating and piloting systems for aircraft, ships, and submarines which take in star positions, time, radio beam signals, inertial signals, motion of the air, etc., and deliver steering directions.

Navigating systems for land-based combat vehicles.

Nuclear reactor simulators, for study and design.

Post office mail sorting systems.

Power company network analyzers, which take in analog information about the resistances, inductances, and capacitances of an electric power plant's network of electrical lines and loads, and enable the behavior of the system to be calculated.

Printing devices of high speed, which take in punched cards or magnetic tape and put out printed information at rates from 600 to 2000 characters per second.

Process controllers, pneumatic, electronic, hydraulic, etc., for handling processes, which take in indications of humidity, temperature, pressure, volume, flow, liquid level, etc., and put out signals for changing positions of valves, altering speeds of motors, turning switches on and off, etc.

Process industry advanced control systems, for handling connected or flowing materials, which will take in indications of flow, temperature, pressure, volume, liquid level, etc., and give out the settings of valves, rollers, tension arms, etc., depending on the program of control.

Process industry data processing systems, for recording, information, checking conditions, and signalling alarms.

Process industry plant flow analyzers.

Product assembly control systems, which take in semi-finished materials, position them in work stations, perform assembling operations on them, and deliver units of products to shipping stations. (Example: electronic component assembly systems.)

Punch card machines, which sort, classify, list, total, copy, print, and do many other kinds of office work.

Railway tower signalling equipment, which for example enables a large railroad terminal to schedule trains in and out every 20 seconds during rush hours with no accidents and almost no delays.

Railway centralized traffic controllers, that remember the locations, directions, and speed of trains, optimize the allocation of track space for fulfillment of scheduled train operations, and provide signals therefor.

Random access file computers.

Remote control telemetering systems.

Robots or general purpose manipulating machines, which make use of remote or stored signals from a human operator and act them out in a special environment, such as a heavily radioactive chamber.

Sale recorders, also called point-of-sale recorders, which take in amount, type, and other information about sales of goods, and produce records in machine language, which can later be automatically analyzed and summarized by punch card or computing equipment.

Spectroscopic analyzers, which vaporize a small sample of material, analyze its spectrum, and report the presence and the relative quantities of chemical elements and compounds in it.

Strategy machines, which enable military officers in training to play war games and test strategies, in which electronic devices automatically apply attrition rates to the fighting forces being used in the game, growth rates to the industrial potential of the two sides, etc.

Tape-to-card converters, which take in information on punched paper tape or on magnetic tape, and put out corresponding or edited information on punched cards.

Target simulators, which take in a program of instructions for the behavior of a target and execute them.

Teaching machines (or programmed learning machines), which take in a sequence of items of information for giving instruction and present them successively to a student, promptly telling him whether his answer to each item is right or wrong; the program may be simple or complex, branching or not branching, etc.

Telemetering transmitting and receiving devices, which enable a weather balloon or a missile to transmit information detected by instruments within it as it moves; the information is recorded usually on magnetic tape in such fashion that it can later be used for computing purposes.

Telephone equipment including switching, which enables a subscriber to dial another subscriber and be connected automatically.

Telephone message accounting systems, which record local and long distance telephone calls, assign them to the proper subscriber's account, and compute and print the telephone bills.

Terrain data translators, which automatically process information from stereographic photographs.

Test-scoring machines, which take in a test paper completed with a pencil making electrically conductive marks, and give out the score.

Toll-recording equipment, which records, checks, and summarizes tolls for bridges, highways, and turnpikes.

Training simulators, which take in simulated conditions affecting the training of one or more persons in a job, and their responses under these simulated conditions, and show the results, all for the purpose of teaching them; SEE also flight simulators.

Travel reservations and inventory systems for airlines and railroads, which record available accommodations and their sale, and answer interrogations.

Typing machines, programmable, which store paragraphs and other information, and combine them according to instructions into correspondence, form letters, orders, etc., stopping and waiting for manual "fill-ins" if so instructed.

Vending machines, which take in various coins and designations of choices, and then give out appropriate change, coffee, soft drinks, sandwiches, candy, stockings, and a host of other articles, or else allow somebody to play a game for a certain number of plays, etc.

Weather observation recording, telemetering, and transmitting systems.

- END -

WHO'S WHO IN THE COMPUTER FIELD — CUMULATIVE EDITION, 1962

Computers and Automation will publish this summer a cumulative edition of "Who's Who in the Computer Field."

If you are interested in computers, please fill in the following Who's Who entry form (which may be copied on any piece of paper) and send it to us for your free listing. If you have friends in the computer field, please call their attention to sending us their Who's Who entries. The cumulative edition will include only the entries of persons who send us their Who's Who information.

Name? (please print)_____
Your Address?_____
Your Organization?_____
Its Address?_____
Your Title?_____
Your Main Computer Interests?

( ) Applications	( ) Logic
( ) Business	( ) Mathematics
( ) Construction	( ) Programming
( ) Design	( ) Sales
( ) Electronics	( ) Other (specify):_____

Year of birth?_____
College or last school?_____
Year entered the computer field?_____
Occupation?_____
Anything else? (publications, distinctions, etc.)
_____
_____

When you have filled in this entry form please send it to: Who's Who Editor, Computers and Automation, 815 Washington Street, Newtonville 60, Mass.

COMPONENTS OF AUTOMATIC COMPUTING MACHINERY — LIST OF TYPES

(Cumulative information as of May 1, 1962)

The purpose of this list is to report types of components of automatic machinery for computing or data processing.

Any comments, corrections, and proposed additions or deletions will be welcome.

1. Storage mediums, for both internal and external storage:
   - Punch cards
   - Punched paper tape
   - Magnetic tape
   - Magnetic cards
   - Paper forms imprinted with magnetic ink characters for magnetic recognition
   - Paper forms recorded with special characters for optical recognition
   - Paper forms marked with special pencil for electrically conductive recognition ("mark-sensing")
   - Magnetic wire
   - Metal plates
   - Plugboards, i.e., panels of patch cords

(All these physical forms express machine language; when inserted into a machine, they give the machine information and instruction; when left in a filing cabinet, they hold information and instructions in reserve for later use. Sometimes it is the whole area of the storage medium which is used, as in the ordinary punched card. Sometimes it is only the edge which is used, as in edge-punched cards or edge-slotted metal plates.)

2. Storage mediums, internal only:
   - Magnetic drums
   - Magnetic tape devices
   - Magnetic disc devices
   - Magnetic belt devices
   - Magnetic cores, arranged either one-dimensionally as in a magnetic shift register, or in two or three dimensions as a magnetic core matrix memory; they may be made of special iron alloys, iron oxide ceramics called ferrites, etc.
   - Magnetic films
   - Electrostatic storage tubes, in particular cathode ray storage tubes and glass-metal-honeycomb-type storage tubes.
   - Delay lines, of mercury, quartz, nickel, electrical elements, etc.
   - Relays, in relay registers and stepping switches
   - Electronic tubes, in registers of flip-flops, counting rings, etc.
   - Cryotrons, on-off devices operating at liquid helium temperatures
   - Barium titanate crystal devices
   - Switches: toggle switches and dial switches
   - Buttons
   - Keyboards
   - Rotating shafts
   - Voltages

3. Calculating and controlling devices

   a. Digital type:
      - Transistor circuits
      - Magnetic core circuits
      - Tunnel diode circuits
      - Electronic tube circuits
      - Relay, stepping switch, timing cam, and switching circuits.
      - Diode and rectifier circuits: using germanium diodes, selenium rectifiers, silicon diodes, electronic tube diodes, etc.
      - Capacitor and resistor circuits
      - Cryotron circuits
      - Packaged arithmetical and logical circuits
      - Mechanical computing elements: latches, gears, levers, ratchets, program bars, cams, etc.

   b. Analog type:
      - Integrators
      - Adders
      - Multipliers
      - Function generators
      - Resolvers: product, sine-cosine, coordinate transform
      - Synchros
      - Automatic process controllers as such: pneumatic, electronic, hydraulic, etc.

   c. Auxiliary circuit elements:
      - Amplifiers: electronic, magnetic, etc.
      - Pulse transformers
      - Voltage regulators
      - Potentiometers

4. Input Devices

   a. Manual positions: buttons, switches, keys

Components of Automatic Computing Machinery

b. Punched holes:
Punch card readers: electric, photoelectric, mechanical
Paper tape readers: mechanical, electric, photoelectric

c. Polarized spots:
Magnetic tape readers, magnetic card readers

d. Character readers:
Optical, with photoelectric reading
Magnetic ink, with magnetic head reading
Electrically conducting pencil marks, with electric reading

e. Small spot scanners: photoelectric, electronic

f. Sensing instruments of all kinds

(The category "sensing instruments" verges into the science of instrumentation, where humidity, temperature, pressure, volume, flow, liquid level, etc., and many other physical variables can be measured and reported to a data processor in machine language.)

5. Output Devices:

Visual displays, such as lamps, dials, oscilloscope screen, etc.
Electric typewriter, or other electrically-operated office machine
Line-a-time printer, which prints a whole line of characters at once
Matrix printer, that forms each character by a pattern of dots
Automatic plotter, which will trace or plot a curve according to information delivered by the machine
Facsimile printer
Photographic recording
Paper tape punch
Magnetic tape recorder
Punch card punch
Microphones, telephones, loud speakers, alarms, etc.
Article delivery mechanisms, as in vending machines
Positioning devices, that may operate a valve, roller, tension arm, etc., resulting in control of a manufacturing operation or process, the aiming of a gun, etc.

- END -

SURVEY OF COMMERCIAL ANALOG COMPUTERS

(Continued from page 131)

system, 1 unit / PRGMG CHANGEOVER: 3-5 min / IN-OUT: shaded drawings to scale / RELIAB: no autom checkg; operg ratio, 95% / sale, $2750 / sold or rented, 12 / Instrument uses opaque plate with light openings arranged according to the math of the problem. Problem is presented to instrument as drawing of varying opacity / Seismograph Service Corp., Box 1590, Tulsa, Okla. / *C 62

REAC®. Reeves Electronic Analog Computer / for scientific, process simulation, problems; real-time and other / ACCUR: 4 signif figures / LARGST INSTLN: 120 adders, 60 multipliers, 60 integrators, 300 inverters, 20 resolvers, 100 auxil amplifiers / autom progmg of a new problem when the problem changes, 5 min changeover / IN-OUT: elec typewriter, tape / RELIAB: has autom checkg; operg ratio, 95% / sale $100,000 to $2,000,000 / size of instln not limited by any design considerations / Reeves Instrument Corp., Garden City, N.Y. / *C 62

OVER 500 AREAS OF APPLICATION OF COMPUTERS

Neil Macdonald

Assistant Editor
Computers and Automation

I. Business and Manufacturing in General

1. Office

- Accounts receivable; posting, rebilling
- Advertising effectiveness: analysis, data handling
- Billing and invoicing
- Budgeting
- Capital investment analysis
- Catalog indexing
- Charitable contributions
- Cost analysis
- Depreciation calculations
- Directory advertising calculations
- Dispatching
- Expenses: analysis, prompt reports
- File maintenance
- Filing operations, single and multiple
- Forecasting
- Information retrieval
- Inventory control
- Linear programming
- Mailing list operations
- Management games
- Management reports using the exception principle, and others
- Management simulation
- Management statistics analysis
- Management strategy analysis
- Market research: studies
- Operations research applications
- Order acknowledgment
- Order analysis
- Overhead cost allocation
- Payroll changes for general increases
- Payroll computation and payment
- Pension reporting and updating
- Performance evaluation
- Price analysis
- Property accounting
- Purchase order writing
- Production forecasting
- Questionnaire analysis
- Repair and maintenance: records, scheduling, control
- Royalty processing
- Salary advances
- Sales analysis
- Sales area distribution
- Sales quota calculations
- Savings bond deductions
- Taxes, calculation
- Transportation optimization
- Vacation scheduling
- Voucher distribution
- Wage and salary analysis
- Wage and salary tax computations
- Warehousing and stocking: records, analysis
- Work-in-process records

2. Plant and Production

- Assembly line balancing
- Factory operation simulation
- Labor utilization: schedules, analysis
- Machine loading schedules
- Machine tools: numerical control
- Machine tools: control for automatic reproduction of complete parts
- Machine utilization analysis
- Materials and parts: requirements, allocation, scheduling, control
- Procurement
- Quality control
- Route accounting (Bakeries, Bottling plants, Dairies, etc.)
- Shop scheduling, optimum

II. Business -- Specific Fields

1. Banking

- Check processing accounting
- Corporate trust accounting
- Demand deposit accounting
- Factoring accounts processing
- Fund accounting
- Installment loan accounting
- Inter-office records: transmission, filing, recall
- Loan accounting, records, and analysis
- Money orders
- Mortgage loan accounting
- Payroll accounting
- Personal trust accounting
- Real estate loan accounting
- Savings and loan postings
- Savings Club deposit accounting
- Signature verification
- Stockholder records
- Trust accounting

2. Educational and Institutional

- Hospital patient billing
- Registration, university
- Revenue and expense accounting
- Supply accounting

Teaching
Test grading

3. Finance

Amortization
Bond evaluation
Dividend calculation
Equipment trust accounting
Fund analysis
Monthly customer statements
Portfolio evaluation
Stock analysis
Stock market data transmission
Stock price index computed hourly, etc.
Stock tabulations
Stock transfers

4. Government

Appropriation accounting
Budgetary control
Census analysis
Election return analysis
Foreign policy analysis
Income tax accounting
Mail sorting and routing
Motor vehicles: registration
Parts cataloging
Rubbish disposal planning
Sales tax records, analysis
Simulation of sections of the economy
Statistical analysis
Supplies: inventory and control
Water and sewer rates revenue

5. Insurance

Actuarial research
Agency accounting
Agents' commission calculations
Asset share calculations
Automobile coding
Claims
Commutation column calculations
Dividend formula analysis
Dividend scale calculations
Gross premium calculations
Group annuity calculations
Group insurance commissions
Mean reserve calculations
Mortality tables
Net premium calculations
Non-forfeiture value calculations
Policy issuance
Policy reserve calculations
Premium billing
Premium and loss distribution accounting
Renewal rating calculations
Valuation calculations

6. Law

Crime: analysis, prediction
Laws: analysis, consistency studies
Patent searching
Traffic violations: recording, accounting, analysis

7. Libraries

Information retrieval
Records and control

8. Magazine Publishing

Renewals: analysis, promotion
Subscription fulfillment

9. Oil Industry

Absorber calculations
Aerial surveys and exploration: analyses
Bulk stations: wholesale sales, billing, accounting
Credit card accounting
Crude oil: analysis of properties, evaluation
Depletion accounting
Distillation tower design
Equilibrium flash calculation
Flow: control
Fuel deliveries: degree-day accounting
Gasoline blending
Gravometric analysis
Heat exchange calculations
Heat and material balances
Lease and well expenses and investments: records and analysis
Map construction
Mass spectrometer data: reduction, analysis
Off-shore installations: studies of design variations
Oil field analysis:
  Correlation of data from different drill holes;
  Correlation of data from seismic tests;
  Estimated amount and direction of flow of fluids through porous rocks
Oil purchase accounting
Pipe stress analysis
Plate-to-plate distillation calculations
Refinery and gas plant components: design, operation
Refinery shutdown and maintenance: scheduling calculations
Refinery simulation
Secondary recovery: analysis
Seismic data reduction
Well logs: corrections
Wells and fields: prorating analysis

10. Public Utilities

Boiler control
Circuits and lines: mileage analysis
Compressor performance
Dispatch control
Electric distribution networks
Equipment: attrition and life expectancy
Gas distribution networks
Gas well probation
Load duration
Load flows
Meter reading
Natural gas measurement
Pipe line design
Power distribution calculations
Power plants: stability of control
Power production scheduling

Pressure vessel flange designs: calculating, listing
Rate determination
Repair calls: dispatching, scheduling
Sag-tension studies
Steam turbines: output, control
Transformer thermal rating
Transmission line design and losses
Water reservoir management

11. Steel Industry

Billet cut-up line: control
Smelting process: blast furnace stockhouse control

12. Telephone Industry

Coin telephone: collecting, accounting
Customer payments
Local service charge billing
Message register billing
Toll ticket billing

13. Transportation

Aircraft maintenance scheduling
Air traffic control
Automatic toll registration
Bus scheduling
Cloud-height-data analyzer for airports
Collision warning systems
Crew training
Elevators: automatic control
Flight simulation
Motor freight records: analysis
Navigating systems
Parking garages: automatic control
Pilot training
Preventive maintenance scheduling
Railroad freight cars: accounting, allocation, distribution, control
Railroad inventory accounting
Rail traffic control, centralized
Satellite orbit calculations
Ship arrival forecasting
Subways: automatic control
Trains: automatic control
Travel reservations

14. Miscellaneous

Hotels: registration, reservations
Inventions and patents: filing, retrieval
Meat packaging: mixture, optimization
Television stations: real-time program switching operations
Vending machine programming

III. Science and Engineering

1. Aeronautics and Space Engineering

Aerodynamical formulas: evaluation
Aircraft safety: control of cargo weights and fuel supply
Airframe stress analysis
Critical speed problems
Curve fitting
Factor analysis
Flight simulation
Flight test data reduction
Flight training devices
Flutter analysis
Ground controlled approach: programming
Gyroscopic calculations
Heat transfer analysis
Heliocopter piloting studies
Navigation training devices
Rocket motor propellants: analysis, control during firing
Satellite tracking
Suspension reaction for airborne stores
Systems evaluation
Theodolite data reduction
Vibration analysis
Wind tunnel data reduction

2. Biology

Animals: behavior models
Hybrid optimization
Livestock breeding analysis
Livestock feeding control
Livestock-feed ingredient-mix: optimization
Species characteristics: correlation analysis
Species varieties: automatic classification

3. Chemical Engineering and Chemistry

Chemical compounds: structure studies
Crystal structure factors
Distillation processes: determination of starting times, etc.
Equilibrium equations: studies
Flash vapor calculations
Gas line calculation
Hydrocarbons: structure analysis
Ion exchange column: performance appraisal
Mass spectrometer analysis
Organic compounds: classification
Organic compounds: file searching
Permeability, relative: computations
Process control
Process simulation
Reaction analysis
Spectrum analysis
X-ray crystallography analysis

4. Civil Engineering

Abutment design
Adjustment of level net
Area calculation by coordinates and by other methods
Azimuth determination from sun observation
Beam design
Bridge design
Concrete design, prestressed and reinforced
Construction tie computation
Curve, arc, line computations and intersections
Cut and fill calculations
Cylindrical shell analysis
Dam design
Distance, station and offset, to a point
Earthwork computations
Embankment stability design

Freeway assignment
Freezing and thawing of soils
Grade sheet processing
Highway profiles
Monthly equipment summary
Pavement design
Photogrammetric data reduction
Pier design
Pile load computation
Pipe design
Pressure distribution in layered media
Ramp and interchange design and calculations
Retaining wall design
Roadway elevations
Route optimization
Slab volumes and other calculations
Soil test analysis
Steel column design
Stress analysis
Survey closure: control
Three-point problem solutions
Traffic density: pictorial simulation
Traffic light maintenance: control
Traffic simulation
Transformation of coordinates
Traverse adjustment
Traverse closure
Triangulation
Vertical alignment
Water distribution systems: analysis, optimization

5. Electrical Engineering

Antenna design
Cathode tube design
Circuit analysis and design
Circuit assembly: control
Component design
Computer logic circuits: design by numerical control
Electromagnetic wave propagation in various media
Feedback system, single loop, finding the root locus
Filter analysis
Generator calculations
Logical networks: design
Motor calculations
Radar echoes
Radio interference
Systems evaluation
Transformer design
Transient performance
Traveling-wave-tube calculations
Triode design

6. Hydraulic Engineering

Backwater profiles
Compressible and incompressible flow analysis
Culverts: analysis, geometry
Drainage systems design
Flood and flow forecasting
Flood control calculations
Flood frequency analysis
Flood routing
Flow in open channels
Ground water: flow of
Hydraulic circuits and components: design
Hydraulic network analysis
Hydroelectric dam design
Multi-purpose water-reservoir system management
Pipe stresses
Reservoir aggradation
Reservoir area computations
Sewer design
Shock-wave effect analysis
Surge-tank analysis
Turbine speed regulation
Unit hydrographs: determination
Water hammer analysis
Wave motion analysis
Wind-wave analysis

7. Linguistics

Concordances: construction
Syntax pattern analysis
Translation from one language to another
Word frequency analysis

8. Marine Engineering

Compartment pressures in emergency situations
Compartment ventilation calculations
Force analysis of space structures
Form calculations
Fuel rate analysis
Gyroscopic-compasses sea-test: data reduction
Hydrostatic functions
Plate and angle combinations: calculations
Ship displacement calculations
Ship maneuvering calculations and control
Ship models: extrapolation of observations
Ship waterline characteristics
Shock isolator calculations
Submarine hulls: Bon Jean calculations
Submerged cables: calculation of transient motion
Turbine reduction gear systems: vibration analysis
Ullage tables

9. Mathematics

Boolean algebra calculations
Calculus of variations
Constants, important: evaluation
Convolution
Coordinate rotation and translation
Curve fitting
Determinant evaluation
Difference equations solution
Differential equations solution
Differentiating symbolically
Eigenvalues and eigenvectors: calculations
Fourier analysis and synthesis
Function tables: computation
Integral equations
Integration of functions
Intelligence: simulation of human thinking processes
Lagrange interpolation

Least squares fit to inconsistent equations
Matrix inversion
Matrix multiplication
Maximum likelihood functions
Multi-dimensional partial differentials
Multiple integrals
Numerical base conversion
Partial differential equations
Polynomial roots
Simulation of mathematical equations and solutions
Simultaneous linear equations
Simultaneous non-linear equations
Simultaneous ordinary differential equations
Stochastic difference equations
Table computation (evaluation of functions)

10. Mechanical Engineering

Air conditioning calculations
Arch analysis and design
Building frames for reinforced concrete construction: Hardy Cross analysis
Cam design
Casing design
Combustion computations
Composite stringers design
Compressors: horse power calculations
Conveyor geometry
Crankshaft vibration analysis
Engine and piston computations
Flange cross sections, table of properties
Foundation settling: effects
Heat flow
Heat loss of rooms and buildings
Machine vibration analysis
Moments of inertia
Pipe-stress analysis
Orifice factors: computations
Piping systems, flexibility analysis
Pressure vessel computations
Propeller pitch correction
Reinforced concrete: bending, stress, etc.
Rigid body vibrations: analysis
Rigid frames: moment distribution analysis
Shell analysis: stress distribution
Temperature stresses
Torsional systems, bearing loads, and engine forces: Holzer analysis
Truss analysis: stress and deflections
Vehicle checkout calculations
Vibration analysis

11. Medicine

Anesthesia control
Ballistocardiogram analysis
Blood volume loss: calculation
Diagnosis of disease
Electrocardiogram integration and analysis
Heartbeat analysis
Medical data telemetering and analysis
Medical tests: analysis
Motor system coordination testing
Physiology of the eye: analysis

12. Metallurgy

Alloy calculations
Crystal structure computations

13. Meteorology

Weather forecasting

14. Military Engineering

Ballistic trajectories
Bomb impact analysis
Bombing tables
City evacuation studies
Fire control
Firing tables
Missiles: launching, directing, intercepting, and recovery: calculations
Pursuit and combat: analysis, control
Radar defense systems: analysis, calculations
Rocket trajectories
Strategy analysis and optimization
Trajectory calculations
Weapons control
Weapons systems analysis and evaluation

15. Naval Engineering (see also Marine Engineering)

Cavitation studies
Component attrition rate analysis
Decompression tables
Submerged flow: potential patterns

16. Nuclear Engineering

Engines: tests, data, control
Multigroup criticality calculations
Neutron diffraction
Neutron flux distribution
Neutron transport
Power plant monitoring
Radioactive fallout: analysis, prediction
Radioactive level calculations
Reactor design and evaluation
Reactor simulators

17. Photography

Color analysis
Color separation negatives: scanner for automatic production
Lens coating calculations
Optical ray tracing
Optical system design

18. Physics

Cosmic radiation: statistical analysis
Crystallography analysis
Electron distributions
Electron trajectories
Interatomic bond lengths and angles
Shock waves analysis
Thermodynamic equations

19. Psychology

Data reduction and analysis

(Please turn to page 156)

ROSTER OF SCHOOL, COLLEGE, AND UNIVERSITY COMPUTER CENTERS

Following is a roster of school, college, and university computer centers. Much of the information is derived from a survey form returned by many organizations. This form asked for: 1. Brief description of your main purposes or mission? / 1a. Do you provide computing services commercially? / 2. Your equipment and facilities? / 3. Courses given in conjunction with your computing center? / 4. Any remarks? / 5. Number of your staff? / 6. Year established? / Filled in by: Name____ Title____ Organization____ Address____.

In the following each entry contains: Name and address / Purpose or mission / Equipment / Courses / Notes.

The abbreviations used include the following:

Activities
- Ra Research and development
- Ca Commercial computing and consulting services
- Ga Government activity
- Pa Problem-solving
- Ea Education
- Ma Manufacturing activity (Used also in combinations as in RCEa "research; computing and consulting service; and educational activities")

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

When Established
- 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
- Dc Digital computing machinery
- Ac Analog computing machinery
- Ic Incidental interests in computing machinery

*C Information checked by the organization (C for Checking)/ 62: information furnished in 1962 / 61: information furnished in 1961 / etc.

G Information gathered, but not checked by the organization

EAM Electric punch-card accounting machine

K thousand (words or digits of core storage)

CPM cards per minute

For computer identifications, see the survey of digital and analog computers.

The American University, Electronic Data Processing Laboratory, 1901 F. St., N.W., Washington 6, D.C. / *C 62
Use of computers as a management tool, for budget preparation and execution; information storage and retrieval; student classroom work / LGP-30, with Model 342 High Speed Reader Punch and Model 322 Automatic Switching Control Unit, RPC-4000 / Various courses, including training courses for the Royal McBee Corporation / CPEa Ss(8) Se(1960) DIc

A & M College of Texas, College Station, Tex. / *C 62
Instruction / IBM 1401, 709, 650, 717, 714 / 13 courses on computers and their applications / RCEa Ss(40) Le(1929) DIc

Abilene Christian College, IBM Center, Abilene, Tex. / *C 62
Business office records; student and alumni records / IBM 402 and support equipment; 3 key punches, sorter, collator, summary punch / Introduction to IBM Accounting / Ea Ss(4) Se (1958) Ic

Auburn University, Computer Laboratory, 113 Broun Hall, Auburn, Ala. / *C 62
Faculty research; student orientation on computers; thesis work; institutional analysis and data processing in general administration / IBM 1620, 1622, 548, 26, 519, 407, 83 / Digital Computer Programming; EDP Systems; Electronic Data Processing; Math of Computers / CRPEa Ss (7) Se(1959) DIc

Baylor University, Hankamer School of Business, Waco, Tex. / *C 62
Research and instruction in computer applications / (to be delivered Aug. 1962) IBM 1620, 1622, 402, sorter and key punch / Data Processing; Basic Computer Course / RCEa Ss(1) Se (1962) Ic

Boston College Mathematics Institute and Computer Center, Chestnut Hill 67, Mass. / *C 62
Education and research; developing programs useful for high school math teachers in conjunction with modern math programs / IBM 1620, 1622; On order: additional storage unit, high speed printer, card punch / Numerical Analysis and Statistics. Beginning Feb., 1963: Compu-

ter Techniques; Linear Programming / RCEa Ss(5) Se(1962) Dc

Brigham Young University, Computer Research Center, Provo, Utah / *C 62
Education and research / IBM 650, floating point and index register; IBM 407 and auxiliary equipment / Digital Computers, Advanced Digital Computers, Advanced Digital Computer Technical Training Program / RCEa Ss(5) Se(1959) Dc

Bucknell University, Freas-Rooke Computing Center, Lewisburg, Pa. / *C 62
Instruction in use and applications of electronic computers / Burroughs E-101-3 digital computer, IBM 1620, PACE TR-10, Analog Computer / Introduction for Engineering Freshmen, used within engineering classes / RCEa Ss(6) Se (1958) DAc

Braunschweig Technischen Hochschule, Rechenzentrum und Institut für Rechentechnik, Pockelsstrasse 4, Braunschweig, Germany / G 62
Programming techniques for education; automatic programming and compiling techniques; simulation of analog computing methods by digital computers; combined systems; function generation and recording for analog computers by magnetic tape; dynamic programming / Electrologica-X1 digital computer with 16,000 words core storage; Shorts general purpose analog computer (2 consoles), 2 PACE Variplotters; VIVAR bivariable function generator; four-channel pen recorder; magnetic tape equipment. ZUSE Z-22 digital computer, Ferranti input (200 char/sec) and Creed output (25 char/sec) for punched tape; IBM 407 and 163 tape-to-card punch and card-to-tape punch / Ea ?s ?e DAc

Bristol College of Science and Technology, Ashley Down, Bristol 7, England / G 62
Education / Elliott 803 digital computer; Solartron Minispoll analog computers, calculating machines, relay demonstration computer / Ea ?s ?e DAc

Brown University Computing Laboratory, Div. of Applied Mathematics, 180 George St., Providence 12, R.I. / *C 61
Computing service; instruction; research / IBM 650 and auxiliary equipment; IBM 7070 data processing system / RCPEa Ss(9) Se(1960) Ic

California Institute of Technology, Pasadena, Calif. / *C 62
Education and research / IBM 7090; Burroughs 220 / about fifteen courses / REa Ss(30) ?e Ic

Carleton University, Colonel By Drive, Ottowa 1, Ontario, Canada / G 62
Education / IBM 1620 data processing system with 20,000 decimal digits of core storage; IBM type 870 document-writing system; Friden model 1620 flexowriter / courses in computer programming and application / Ea ?s ?e Ic

Case Institute of Technology, Computing Center, Cleveland 6, Ohio / *C 62
Scientific and engineering calculation, business data processing, student classroom work / Univac I, card-to-card tape, high-speed printer, unityper; Burroughs 220, 4 tape drives, Cardatron input-output; auxiliary IBM punched card equipment; Univac Scientific 1107 to be installed in January 1963 to replace the Univac I / RCEa Ss(30) Se(1956) Dc

Chalmers University of Technology, ADB Institutet (Scandinavian Automatic Data Processing Institute), Gibraltargatan 5, Gothenburg S., Sweden / *C 61
University training in automatic data processing; consulting, programming, coding and running problems on computers for industries in Scandinavia / Alwac IIIE (Wegematic 1000) / CPEa Ss(25) Se(1957) Ic

Clarkson College of Technology, Potsdam, New York / *C 62
Scientific and business education and research / IBM 1620-1622 Digital System; TR-48 Analog System / Numerical Methods, Digital Computers I and II / REa Ss(1) Se(1961) DAc

Clemson College, Clemson, S.C. / *C 62
Teaching and research / RPC 4000 system with RPC 4600 tape-typewriter system; Systematics K-177 / Basic Programming; courses in mathematics, management, and chemical and mechanical engineering make use of computer / RCEa Ss(2) Se(1961) Ic

Cornell University, Computing Center, Rand Hall, Ithaca, N.Y. / *C 62
Research computation and teaching / Burroughs 220 Datatron, 4 IBM keypunch machines, card sorter, IBM 101 statistical machine, card reproducing and comparing machines, tabulator, IBM 407 on-line printer / REa Ss(10 full time, 13 part time) Se(1953) Ic

Dartmouth College, Hanover, N.H. / *C 62
Education and research / General Precision LGP-30, photoreader, off-line flexowriter / Two numerical analysis courses, non-credit courses in programming / REa Ss(8) Se(1959) Ic

Emory University, Atlanta 22, Ga. / *C 62
Research and instruction / Univac SS-99, 120 and tabulating equipment / Introduction to Computers, Mathematics for Computer Use / REa Ss (8) Se(1960) Ic

Florida State University, Tallahassee, Florida / *C 62
Research and instruction / IBM 709, 8 tape drives, 32K memory; IBM 1401 on order with paper tape facility / Fortran programming; Numerical analysis / REa Ss(16) Se(1957) Ic

The Franklin Institute Computing Center, 20th & Parkway, Philadelphia 2, Pa. / *C 62
Advancement of the computing art; education; accounting; research; government; business / Modified Univac I data processing system with associated ancillary equipment / Computers for Students; Computers for the Layman; Introduction to Univac I Programming / RCEa Ss(23) Se(1957) Ic

General Motors Institute, Computer Services Department, Flint, Mich. / *C 62
Education / IBM 1620 with 20K, IBM 082, 519, 085, 548, 407 / Introduction to Computers, Numerical Analysis, other courses with computer applications / REa Ss(5) Se(1961) DIc

Georgia Institute of Technology, Rich Electronic Computer Center, 225 North Ave., N.W., Atlanta 13, Ga. / *C 62
Education and research / Burroughs 220, 5000 words of core, 6 mag tape units; UNIVAC Scientific (ERA 1101) with 4,096 words of core memory and card input-output added / Over 90 courses on computers and their applications / RCEa Ss(45) Se(1955) DAc

George Washington University, Logistics Research Project, 707 22nd St., N.W., Washington 7, D.C. / G 60
Simulation of operations (logistic) characteristic of naval planning / ERA Logistics Computer, special drum with 400,000 decimal digits, serial card-in-out, paper tape in-out / Ga Ss(40) Me(1949) Ic

Harvard University, Harvard Computation Laboratory, Cambridge 38, Mass. / *C 60
Computing service / Builder of Harvard Mark I, II, III, IV calculators for Navy, Air Force and own use; Univac I machine / RCPEa Ms Me(1941) Dc

Howard University, 2400 Sixth St., N.W., Washington, D.C. / *C 62
Registration, financial data, machine processing of reports, accounting and academic application / IBM 1620, 407, 514, 548, 82, 85, 26, 24, 56, 954 / Machine Accounting Lab; survey course covering Data Processing equipment; General programming / RPEa Ss(7) Se(1961) DIc

Imperial College, Mathematics Dept., Computer Section, Huxley Bldg., Exhibition Road, So. Kensington, London, England / G 60
Automatic digital computers constructed and in operation / RMEa Ss Le(1922) Dc

Indiana Technical College, 1600 E. Washington Blvd., Fort Wayne, Ind. / *C 62
Education and research / IBM 1620 with 1621 tape input, 026 and 063; 1622 card input, 403 Accounting Machine (Series 50), 082 - Sorter (650 CPM) and 548 - Interpreter in 1962 / Computer Programming and advanced courses / REa ?s Se(1961) Dc

Indiana University, Research Computing Center, Gymnasium Addition, Bloomington, Ind. / *C 62
Research / IBM 709, 32K, 10 tape drives; IBM 1401, 3 tapes; usual unit record equipment / Non-credit programming and coding courses each semester / REa Ss(16) Se(1954) Ic

Institut Blaise Pascal, Laboratoire de Calcul Numérique, Bâtiment Henry Poincaré, 11 rue Piérre Curie, Paris 5e, France / *C 61
Research / Elliott 402E; IBM 650 with floating point, core storage and index registers; Bull Gamma - AET; IBM 704; IBM 706 / RCEa Ms(55) Se(1957) Dc

Institut für Massivbau, Technische Hochschule, Brühlstrasse 27, Hannover, Germany / G 62
Programming for problems of Civil Engineering, in particular Theory of Structures / ZUSE Z 22 R computer / Ra ?s ?e Ic

Institute of Mathematical Sciences, AEC Computing and Applied Mathematics Center, 4 Washington Pl., New York 3, N.Y. / G 60
Research and computing service for the Atomic Energy Commission / IBM 704 and peripheral equipment / RGa Ms(100) Se(1952) Ic

King's College, University Computing Laboratory, One Kensington Terrace, Newcastle upon Tyne, 2, England / *C 62
Teaching and research into automatic computing and automatic computer applications / Ferranti Pegasus Computer with Decca Twin Magnetic Tape Unit and Ferranti Control System; English Electric KDF.9. system on order / Numerical Analysis, Operational Research and Automatic Computing, and others / RCPEa Ss(8) Se(1957) Ic

Lamar State College of Technology, Research Center, Beaumont, Tex. / *C 62
Computing facilities for faculty; research in academic and commercial problems / LGP-30 digital computer and Burroughs 204 Datatron System with floating point / Introduction to Data Processing, Advanced Data Processing / RCPEa Ss(7) Se(1954) DIc

Lawrence Institute of Technology, 21000 W. Ten Mile Rd., Southfield, Mich. / *C 62
Provide facilities for students and faculty to solve engineering and business problems / E-102 (IBM 1620 to be added in 1962) / Programming for Engineering Students, Programming for Management Students, Logic Design, Computer Circuits / REa Ss(2) Se(1961) DIc

Lehigh University, Packard Laboratory, Bethlehem, Pa. / *C 62
Education, training, research, data processing / LGP-30 / REa Ss(6 part time) Se(1957) Ic

Louisiana Polytechnic Institute, Computing Center, P. O. Box 776, Tech Station, Ruston, La. / *C 62
Education and research / IBM 1620 60K core, IBM 402, 407, 514, 519, 077, 082, 026 / 16 courses on computers and applications / REa Ss(4) Se (1961) DIc

** Lund University, Dept. of Numerical Analysis, Sölvegatan 14, Lund, Sweden / *C 62
Research and education / SMIL computer with 4096 word core memory, ALGOL 60 compiler / graduate and post-graduate courses in numerical analysis / RCPEa Ss(12) Se(1956) Ic

Marquette University, 1515 W. Wisconsin Ave., Milwaukee 3, Wisc. / *C 62
Research and education / IBM 1620; 2 IBM 729, 40,000 digits of storage; IBM 870 / Electrical Engineering, Mathematics, and Business Administration with application to computers / REa Ss(7) Se(1958) DIc

Massachusetts Institute of Technology, Computation Center, 77 Massachusetts Ave., Cambridge 39, Mass. / *C 62
For educational and research activities of MIT and 40 other participating colleges / 4-channel, IBM 7090, 19 on-line tape units, direct-data device, interval clock and memory-protect and relocation modes; 2 IBM 1401C 4K three tapes on each, EAM and card-punch machines / short programming courses in August, weekly seminars, approximately 20 accredited MIT courses using computers / RCEa Ss(35) Se(1956) Dc

Miami University, Oxford, Ohio / *C 62
University research / IBM 1620 / Computer Programming, Electronic Data Processing / REa Ss (3) Se(1959) Dc

Midwest Research Institute, 425 Volker Blvd., Kansas City 10, Mo. / *C 62
Studies in application of digital and analog computers to business and scientific problems; mathematical analysis and computation; economics research; operations research; systems engineering; simulation / IBM 1620, Donner 3500, GEDA N3 and L3 / RCPa Ms(300) Me(1944) DAc

Missouri School of Mines and Metallurgy, Rolla, Mo. / *C 62
Training of students and research / LGP 30, IBM 1620 40,000 positions of core storage being installed / Numerical Analysis and Digital Computing, Introduction to Computing Techniques, Introduction to Numerical Analysis and Digital Computing, Logic of Digital Computers, and others / RCEa Ss(15) Se(1960) DIc

National Physical Laboratory, Mathematics Div., Teddington, Middlesex, England / *C 61
Computing service / DEUCE and ACE; digital and punched card / RCPEa Ms(60) Me(1945) Dc

Newark College of Engineering, Newark 2, N.J. / *C 62
Education and research / IBM 1620 20K machine, IBM 026, 082, 407, and 519 / Special Orientation Course in Programming & Use of the 1620, Numerical Analysis and Programming of digital computers / REa Ss(2) Se(1961) DIc

Northwestern University Computing Center, Evanston, Ill. / *C 62
Education and research / IBM 709 Data Processing System, 32K, 8 tapes; IBM 1401 and auxiliary equipment / Introduction to Computer Coding, Digital Computer Programming and Error Analysis, Digital Computer Solution of Differential and Integral Equations, Digital Computer Solution of Algebraic Problems / REa Ss (18) Se(1957) DIc

Norges Techniske Høgskole, Institutt for Anvendt matematikk, Trondheim, Norway / G 62
/ Expect to get governmental grant for the

**See Addendum, page 151

installation of an electronic digital computer / REa ?s ?e DIc

Ohio State University, Numerical Computation Laboratory, 1314 Kinnear Rd., Columbus 12, Ohio / G 62
Research and education; development of an executive routine which will maximize efficiency in time-sharing the IBM 709-7090 / IBM 704 with 4 tapes, 4 K core, 4 drums; IBM keypunches, reproducing punches, sorter, tabulator; IBM 709, IBM 7090 (due Oct., 1962) / courses in numerical analysis and data reduction / REa ?s ?e DAc

Oregon State University, Computing Center, Corvallis, Ore. / *C 62
Education and research / ALWAC III-E (8092), photo-reader and high-speed punch, one off-line Flexowriter / Computer Coding, ALWAC Coding, Symbolic Languages, ALGOL Progeams, Numerical Calc., Circuits and Fields / REa Ss(5) Se (1957) Ic

Pennsylvania State Univ., Computer Facilities, Electrical Engineering Dept., University Park, Pa. / *C 61
Digital computing service for the University / PENNSTAC digital computer; analog computers, network analyzer / RPEa Ss(13) Se(1952) DAc

Remington Rand Italia SpA, Centro di Calcolo Elettronico, Via Festa del Perdono, 7, Milano, Italy / *C 62
Scientific research, technical computations, administrative services / Remington Rand UNIVAC Solid-State 90-column tape system / mathematics programming and commercial applications programming / RCPEa Ss(25) Se(1960) Ic

RPI Computer Laboratory, Troy, N.Y. / *C 62
Teaching and research / IBM 650, IBM 1410 on order / Programming, Numerical analysis / RCEa Ss(7) Se(1952) Ic

Royal College of Advanced Technology, Salford 5, Lancashire, England / G62
Research and education / 4 modules of EMI analog computer Mark II / numerical analysis and programming / Ea ?s ?e Ac

Rice Institute Computer Project, Houston, Texas / G 60
Development of a high speed digital computer, to be used as a university research tool / Ra ?s Se(1957) Dc

Purdue University, Statistical and Computing Lab., Engineering Administration Building, Lafayette, Ind. / *C 61
Statistical and computing services / RCPEa Ms(75) Se(1948) Dc

St. Cloud State College, St. Cloud, Minn. / *C 62
Registration, basic research for the college / IBM: summary punch, 080 sorter, 402 accounting machine / Ra Ss(2) Se(1957) Ic

San Diego State College, San Diego 15, Calif. / *C 62
Problem-solving adjunct to instructional program and research center / IBM 650 (to be replaced in 1962 by IBM 1620) / Several courses offered by departments / RPEa Ss(2) Se(1961) Ic

San Fernando Valley State College, School of Business and Economics, 18111 Nordhoff St., Northridge, Calif. / *C 62
Teaching, research, consultation, programming / LGP-30, photoreader, 3 flexiwriters, and add-punch / Introduction to Data Processing, Programming, Fortran Programming / REa Ss(2) Se(1959) DIc

San Jose State College, Computer Center, San Jose 14, Calif. / *C 62
Educational / IBM 1620 computer, 1622 card reader, 1623 core storage, 407 accounting machine, 083 sorter, three 026 key punch machines / Three math programming classes, four business programming classes, miscellaneous Fortran use in engineeding / PEa Ss(2) Se (1960) Ic

Southeast Missouri State College, Cape Girardeau, Mo. / *C 62
Education; business use and registration in the future / IBM 160 computer, tape fed / Computer Programming, Numerical Analysis / REa Ss(2) Se(1962) Ic

Southern Illinois University, Data Processing and Computing Center, Carbondale, Illinois / *C 62
Education and research / IBM 1620, 1401, 0010, 0026, 0056, 0083, 0088, 0407, 0514, 0557 / Over 24 courses on computers and their application / RPEa Ss(44) Se(1952) Ic

Southern Methodist University, Dallas 5, Tex. / *C 62
Research and education / Univac 1103, Univac 90, Univac 120, tab equipment / Various programming courses / REa Ss(10) Se(1957) Dc

Southern University, Baton Rouge 13, La. / *C 62
IBM 1620 and tabulating equipment / Engineering, Math., Business, Statistics / REa Ss(4) Me(1949) DIc

Stanford University, Computation Center, Stanford, Calif. / *C 62
Education and research / Burroughs 220, IBM 7090, 1401, auxiliary equipment / Numerical Analysis, Introduction to Computing, Advanced Programming / REa Ss(25) Se(1953) Ic

Stevens Institute of Technology, Hoboken, N.J. / *C 62
Research and education in digital computers and related fields, general research activities / IBM 1620, card in-put / Numerical Analysis, Programming, Logical Design / RCEa Ss(2) Se(1960) Dc

Swedish Board for Computing Machinery (Matematikmaskinnämden), Drottninggatan 95 A (P.O. Box 6131), Stockholm 6, Sweden / *C 62
Central state institution for research, development, education, consulting, system investigation, problem analysis, documentation; computing service: applied mathematics, technology; data processing: commercial, operational, governmental / BESK, FACIT, EDB, Alwac III E / RMCGPEa Ms(70) Me(1949) DAIc

Temple University, Broad St. & Montgomery Ave., Philadelphia 22, Pa. / *C 62
Education, research, administration work / Card 650, IBM 1401 (Oct. 1962) / Three one-semester courses in programming; and IBM 1401 courses / REa Ss(2) Se(1959) Ic

Tennessee Polytechnic Institute, Cookeville, Tenn. / *C 62
Make computer available to students and faculty through formal course work; computer service to improve instruction in other courses; research / IBM 1620 with card input-output / Principles of Digital Computers, Digital Computer Laboratory Course / REa Ss(5) Se(1959) DIc

Trinity University, 715 Stadium Drive, San Antonio 12, Tex. / *C 62
Education / LGP-30 computer and photoelectric tape reader / Digital Computer Programming, Numerical Analysis, Research Equations / RCEa Ss(3) Se(1960) DIc

Tuskegee Institute, Rm 219, Moton Hall, School of Engineering, Tuskegee Institute, Ala. / *C 62
Education / IBM 1620 with 20K card system, IBM 26, 82, 402 (expanding to magnetic tape in 1962) / High-Speed Methods of Computation / RCEa Ss(2) Se(1961) DIc

Universitat Berlin, Recheninstitut der Technischen, Hardenbergstrasse 34, Berlin-Charlottenburg, Germany / G 62
ZUSE Z 22 R, computer / RPa ?s ?e Ic

der Universitat Wurzburg, Institut fur Angewandte Mathematik, Klinikstrasse 6, Wurzburg, Germany / G 62
ZUSE Z 22 R computer / REa ?s ?e Ic

Université de Montreal, P.O. Box 6128, Montreal 26, Quebec, Canada / *C 62
Data processing, research, instruction / UNIVAC 120, LGP-30 / Programming courses / REa Ss(28) Se(1959) Ic

University of Akron, 302 E. Buchtel Ave., Akron 4, Ohio / *C 62
Instruction and research / IBM 1620 with paper tape and card input-output; 2 magnetic tape units on order; 40K memory / Digital Computer Programming / REa Ss(1) Se(1961) Dc

University of Alabama, Box 2511, University, Ala./ *C 62
Instruction, research, service to administration / Univac solid-state 80 step with tapes / 3 courses in numerical analysis, 2 courses in data processing and statistical applications / REa Ss(7) Se(1961) Ic

University of Arizona, Numerical Analysis Laboratory, Tuscon 25, Ariz. / *C 62
Research and instruction / IBM 650, IAS, on-line 407, 3IR, complete EAM facilities / Beginning and Advanced Programming, Business Data Processing, Numerical Analysis, Information Retrieval and Special Problems / RCEa Ss(23) Se(1957) Dc

University of Arkansas, Fayetteville, Arkansas / *C 62
Education and research / IBM 650 with peripheral equipment / Computer Programming / RCEa Ss(6) Se(1960) Ic

University of California, Computer Center, 201 Campbell Hall, Berkeley 4, Calif. / *C 62
Computer facilities as aid to teaching and research / IBM 704, 32K memory, 8 tapes; IBM 1401, 4K memory, 4 tapes; miscellaneous off-line conventional punch-card equipment / FORTRAN Programming / REa Ms(65) Se(1956) DAc

University of California, Numerical Analysis Research, Los Angeles 24, Calif. / *C 60
National Bureau of Standards Western Automatic Computer, a medium-sized, high speed computer with 256 word electrostatic (Williams type) memory, and an 8192 word drum storage; peripheral punch card equipment / RPEa ?s ?e Ic

University of California, Western Data Processing Center, Graduate School of Business Administration, 405 Hilgard Ave., Los Angeles 24, Calif. / *C 62
Education and research in business data processing / IBM 7090 DP System, IBM 1401, complete punch-card equipment / Non-credit courses in FORTRAN programming / RCPEa Ss(41) Se(1957) Ic

University of California at Los Angeles, 405 Hilgard Ave., Los Angeles 24, Calif. / *C 62
Research and instruction / IBM 7090 system with 8 tapes, IBM 1401 with 1 tape, SWAC: and other small-size computers / 7 undergraduate and 3 graduate courses in mathematics; numerous seminars and colloquia; probably twenty courses in other departments / RCEa Ss(15) Se(1961) Ic

University of Cambridge, University Mathematical Laboratory, Corn Exchange St., Cambridge, England / *C 61
Provide computing service for university / Built Edsac 1 and Edsac 2 / RCPEa Ss(30) Me(1939) Dc

University of Chicago, Institute for Computer Research, Chicago, Ill. / G 60
Computer research and computing service for university / Maniac III computer built by the Institute / RCEa ?s ?e Dc

University of Cincinnati, Computing Center, Cincinnati 31, Ohio / *C 62
Education and research / 1620 with 40K memory / Several engineering and business courses / REa Ss(4) Se(1958) Ic

University College of South Wales and Monmouthshire, Cathays Park, Cardiff, Wales / G 62
STANTEC ZEBRA computing system / PEa ?s ?e Ic

University of Connecticut, Computer Center, Storrs, Conn. / *C 62
Research and education / IBM 1620 with 40K storage and card input-output plus off-line punching and printing, PACE 231R analog computer with 80 amplifiers / Non-credit faculty workshops, electrical engineering graduate courses on digital and analog computers, several undergraduate courses including computers / RCEa Ss(4) Se(1961) DAc

University of Delaware, Newark, Delaware / *C 62
Research and instruction / Bendix G15D and 1 magnetic tape, IBM 1620, 40K, with cards / Automatic Digital Computation, Numerical Analysis / RCEa Ss(3) Se(1957) Dc

University of Detroit, 4001 W. McNichols Rd., Detroit 21, Mich. / *C 62
Research and education / Burroughs E-101, IBM 1620, and peripheral equipment / Computer Concepts, Undergraduate and Graduate Numerical Analysis / RCEa Ss(12) Se(1957) DAc

University of Durham Computing Laboratory, One Kensington Terr., Newcastle upon Tyne 2, England / *C 62
Research / Ferranti Pegasus Computer; Decca Twin Magnetic Tape Unit with Ferranti Controlled System / RPEa Ss(8) Se(1957) Ic

University of Glasgow, Computer Laboratory, W. 2, Scotland / G 62
English Electric DEUCE Mk. I (64 column read punch with paper tape input and output); English Electric KDF9 computer with line printer, magnetic tape units / RPEa ?s ?e Ic

University of Hawaii, Statistical and Computing Center, University Ave., Honolulu 14, Hawaii / *C 62
Educational and research projects / IBM basic 650, alphabetic and special character device / IBM 650, SOAP, FORTRAN, and Basic Machines / REa Ss(4) Se(1960) Ic

University of Illinois, Digital Computer Laboratory, Urbana, Ill. / *C 62
Research and teaching in design of high-speed computers and their components / ILLIAC, IBM 650 (to be replaced in 1962 by 7090), a very high speed computer under construction / Introduction to Automatic Digital Computers, Introduction to the Theory of Digital Machines, Introduction to the Use of Digital Computers, Digital Computer Methods for Statistical Data Processing, Boolean Algebras with Applications to Computer Circuits I and II, and others / RCPEa Ms(96) Me(1949) DIc

University of Kansas, Computation Center, 112 Summerfield Hall, Lawrence, Kan. / *C 62
Academic research / IBM 650, IBM 1620 40K, with 4 magnetic tape drives to be delivered in 1962 / Programming / RCEa Ss(3) Se(1957) DIc

University of Kentucky, Lexington, Ky. / *C 62
Aid in educational and research activities / IBM 1620, 1401, 407, 083, 519, 056, 026 / Automatic Data Processing, Fundamentals of Programming, Data Processing for Business, Cases in

Management, Design of Digital Computer, Numerical Analysis / RCEa Ss(18) Se(1958) DIc

University of Liverpool, Computer Laboratory, Liverpool 3, England / *C 62
Education and research / English Electric DEUCE Mk II Computer, range of punch card equipment, KDF9 on order / Numerical Analysis, Programming, Electronic Computation / RCEa Ss(9) Se(1959) Ic

University of London, Computer Unit, 44 Gordon Sq., London, W.C. 1, England / *C 62
Research / Ferranti Mercury Computer with 5-hole paper tape input and output; Elliott photo-electric card reader connected as auxiliary input / Programming Courses, Theory and Use of Digital Computers, various symposia and external lectures / RCEa Ss(25) Se(1958) Ic

University of Louisville, Computing Laboratory, Louisville 8, Ky. / *C 62
Education and research / IBM 1620, card input-output, IBM 407, PACE 221R analog computer / Numerical Methods, Introduction to Digital Computation, Engineering Applications of Automatic Computation, Advanced Digital Programming / REa ?s Se(1958) DAIc

University of Maine, Orono, Maine / *C 62
Research and education / IBM 1620, 20K, card-oriented / Programming courses in math., civil engrg., mech. engrg., and business and economic departments / RCEa Ss(2) Se(1961) Dc

University of Mainz, Institute for Applied Mathematics, Jacob Welder Weg 7, Mainz, Germany / G 62
Instruction, studies in logical design of unorthodox computers, calculations in power networks / Z 22 Digital Computer; RA 462/2 electronic analog computer; Siemens 2002 transistorized digital computer, 12K and three IBM 727 magnetic tape stations / RPEa ?s ?e DAIc

University of Manchester, Computing Machine Laboratory, The University, Oxford Rd., Manchester 13, England / *C 62
Research into construction and use of digital computers / Ferranti Mercury; Ferranti Atlas being installed / Numerical Analysis, Programming, Logical Design / RCPEa Ss(30) Me(1949) DIc

University of Maryland, Computer Science Center, College Park, Md. / *C 62
Education and research / IBM 1401 with 2 tapes, IBM 1620 (in Coll. of Engnrg.), IBM 7090 on order / Numerous courses directly related to the computers and others with application to engineering, education, mathematics, and business / RPEa Ss(3) Se(1962) Ic

University of Miami, Coral Gables, Fla. / *C 62
Keeping all student records and accounting records on punch cards / RCA 301, IBM key punches, sorters, reproducers, interpreters, collators, and 407 accounting machines, IBM 1620 / Operation of IBM Machines, IBM Accounting, Programming the Computer / RPEa Ss(15) Me(1950) DIc

University of Michigan, Institute for Science and Technology, P. O. Box 2008, Ann Arbor, Mich. / *C 61
Research and computing services / Librascope LGP-30, IBM 709, and a modern large scale analog computer / RCPEa Ls(600) Me(1946) DAc

University of Milan Computing Center, Milan, Italy / G60
Instruction / Univac Solid-State 90 / RCEa Ss Se(1959) Dc

University of Missouri, Computer Research Center, Columbia, Mo. / *C 62
Computer facilities for University research and educational programs / Burroughs 204, paper tape, card, magnetic tape, and floating point; IBM 1620 card system, 60K digit memory / Fundamentals of Digital Computer Programming, Digital Computer Applications in Engineering, Numerical Analysis / RCEa Ss(8) Se(1960) DIc

University of Nebraska, 218 Nebraska Hall, Lincoln 8, Nebr. / *C 62
Research and instruction / Burroughs 205 / Only informal coding courses / RCEa Ss(5) Se(1960) Ic

University of Nevada, Reno, Nev. / *C 62
Research, education, and business / IBM 1620, 20K card and reader, 407, 519, 077, 083, 548, 056, 2-024, 026 / Computer programming courses, basic and advanced; key punching, machine courses and users seminars / RCPEa Ss(5) Se(1959) Dc

University of New Hampshire, Computation Center, Durham, N.H. / *C 62
Research and education / IBM 1620, 40K, card input-output, 407 printer, 4 key punches / FORTRAN Coding / REa Ss(7) Se(1961) Ic

University of New South Wales, UTECOM Laboratory, Kensington, Australia / G 60
English Electric DEUCE computer / RCEa ?s ?e Dc

University of North Carolina, Computation Center, Chapel Hill, N.C. / *C 60
Instruction and research / RCGPEa Ms(50) Se(1959) DIc

University of North Dakota, Computer Lab, University Station, Grand Forks, N.D. / *C 62
IBM 1620, 1622, 402, 514 / Introduction to Electronic Computers, Computers for Engineers, Numerical Analysis / RCEa Ss(4) Se(1961) Dc

University of Oregon, Statistical Laboratory and Computing Center, Eugene, Ore. / *C 62
Education and research / IBM 1620, 1623, 1622, 026, 082 / Numerical Analysis, Computing / REa Ss(6) Se(1961) Ic

University of Pennsylvania, Computer Center, 209 S. 33rd St., Philadelphia 4, Pa. / *C 62
Adjunct to research and education programs / Univac I System, Univac Tape Solid-State 80 System / Programming courses for the two computers plus 10-15 accredited courses offered by graduate school / RCEa Ss(12) Se(1957) DAc

University of Pittsburgh, Computation and Data Processing Center, Fifth Ave., Pittsburgh 13, Pa. / *C 62
Education and research / IBM 7070 10K core storage, floating point, 10 magnetic tapes; IBM 1401, 8K core storage, 4 switchable tapes input-output, card and printer / 12 to 15 courses / RCEa Ss(22) Se(1956) DAc

University of Rhode Island, Computer Laboratory, Kingston, R.I. / *C 62
Education and research / IBM 1620, 60K core, 800 CPM card reader, IBM 407, 514, 557, 077, 3 key punches, IBM 108 / Numerical methods, civil engineering design, statistical design of experiments / RCEa Ss(8) Se(1959) Dc

University of Rochester, Computing Center, Rochester 20, N.Y. / *C 62
Teaching, research and service / IBM 7070, IBM 1401, IBM 1620 / Elements of Computer Science, Programming Languages, Introduction to Theory of Automation, Boolean Algebra and Logical Design, Introduction to Data Processing, and others / RCPEa Ss(10) Se(1956) Dc

University of South Carolina, Columbia, South Carolina / *C 62
Research and education / IBM 1620, 20K memory, 1622, card system, LGP-30 / No formal courses at present / REa Ss(3) Se(1962) Ic

University of Southern California, Computer Sciences

Laboratory, University Park, Los Angeles 7, Calif. / *C 62
Education and research for faculty and graduate students / UNIVAC solid-state 80 and Honeywell-800, plus standard card preparation equipment / Beginning and advanced algebraic compiler / REa Ss(7) Se(1962) Ic

University of Southern Mississippi, Station A, Box 91, Hattesburg, Miss. / *C 62
Teaching, research / RPC 4000, tape reader, punch, typewriter / Computer Programming, Numerical Analysis / RCEa Ss(1) Se(1961) Ic

University of Southwestern Louisiana, Computing Center, Lafayette, La. / G 62
Experimental teaching techniques / IBM 1620, with 1622 card reader-punch; peripheral equipment / REa ?s ?e Ic

University of Tennessee, Knoxville, Tenn. / *C 62
Scientific and engineering research and education / IBM 1620, 60K, cards, machine floating-point, 407 off-line / 4 courses in Mathematics Dept., about 8 short courses per year for faculty and graduate students / REa Ss(9) Se (1961) DIc

University of Texas, Computation Center, Austin 12, Texas / G 60
Research and computing service for university / Control Data 160 and 1604 / RCEa Ss(8) Se (1958) Dc

University of Uppsala, Computer Group, Thunbergsvagen 7, Uppsala, Sweden / *C 62
Research and teaching / IBM-1620, punched card equipment; paper tape equipment; indirect addressing, off-line tabulator and diverse off-line equipment / Numerical analysis and programming / REa Ss(4) Se(1961) Ic

University of Vermont, Burlington, Vt. / *C 62
Academic and research support / IBM 1620 and auxiliary equipment for punched cards / RCEa Ss(2) Se(1961) Dc

University of Virginia, Charlottesville, Va. / *C 62
University computer center / Burroughs 205 with 2 magnetic tapes and automatic floating point / Non-credit programming courses / RCEa Ss(4) Se(1960) Ic

University of Washington, Research Computer Laboratory, 400A Bagley Hall, Seattle 5, Wash. / *C 62
Research and education / IBM 709, 650, 722, 714, 717 / Programming, Numerical Analysis, Business Statistics / RCEa Ss(25) Se(1956) Ic

University of Wichita, School of Engineering, Wichita, Kan. / *C 62
Engineering education / IBM 1620, card input and output, card reader; Boeing analog computer, 60 amplifier, 2 Heathkit 15 amplifier analogs / Digital Computer Programming, Automatic Computers / PEa Ss(24) ?e DAIc

University of Wyoming, Laramie, Wyoming / *C 62
Student and faculty training and research / Bendix G-15D computer, IBM 26, IBM 63, Friden flexowriter; IBM 1620 by Nov. 1962 / Data Processing, Computer Programming, Numerical Analysis / RCEa Ss(4) Se(1959) Ic

Utah State University, Logan, Utah / *C 62
Teaching and research / IBM 1620, card, 40K, indirect addressing, additional instructions, 024, 026, 056, 082, 085, 514, 407 / 10 courses offered / REa Ss(2) Se(1961) DIc

Valparaiso University, Valparaiso, Ind. / *C 62
Instruction / IBM 1620, 1621 Expected late 1962: IBM 1620, 1622, 026, 082, 402 / Numerical Analysis Programming / RPCEa Ss(2) Se (1960) Dc

Villanova University, Villanova, Pa. / *C 62
Education and research / IBM 1620 card input-output / No courses at present, planning some for summer and fall / RCEa Ss(5) Se(1962) DIc

Washington State University, Computing Center, Pullman, Washington / G 60
Computing service and research / RCPEa Ss(10) Se(1956) Dc

Wayne State University, Computing Center, 4841 Cass Ave., Detroit 2, Mich. / *C 62
Education and research / IBM 650 with 2 tapes. Ramac, IBM 1401 with 4 tapes / Over 37 courses with applications in various fields / RPEa Ss(37) Se(1952) Ic

West Virginia University, Morgantown, W. Va. / *C 62
Computing and punched card facilities for faculty, students, administration / IBM 650 20K, 407, two 402, two 514, etc; IBM 1620 60K on order / Introduction to Digital Computation, Data Processing, Numerical Analysis / RCEa Ss(7) Se(1960) Dc

Western Reserve University, Center for Documentation and Communications Research, 10831 Magnolia Dr., Cleveland 6, Ohio / *C 62
Information retrieval in literature, metallurgy, medicine, and educational research / GE 225 8K memory, punched card input-output, magnetic tapes and console typewriter output / Computer Programming, Machine Literature Searching, Information Processing on Computers / RCPEa Ss (7) Se(1961) Dc

- END -

ADDENDA

Roster of School, College, and University Computing Centers

Louisiana State University, Computer Research Center, Baton Rouge, La. / *C 62
Research and teaching / IBM 1620, 1622, 1623 60K memory, IA, / Programming, Applications of Computers and Engineering Problems, Electronic Data Processing, and others / REa Ss(6) Se(1960) DIc

Roster of Products and Services

C23. Analog Computers

Systron-Donner Corp., 888 Galindo St., Concord, Calif. / analog computers and data acquisition systems / DESCR: expandable 3200 iterative analog computer, ±100v range, 0.01% accuracy, 20 to 100 amplifiers. Data acquisition and logging systems monitoring up to 200 channels and more / - / $10,000 to $100,000 / C23

ROSTER OF

COMPUTER ASSOCIATIONS

Following is a roster of computer associations, not including "Users' Groups"; for these, see elsewhere in this Directory.

All additions, corrections, and comments will be welcome.

I.

International Federation of Information Processing Societies, c/o I. L. Auerbach, Auerbach Electronics Corp., 1634 Arch St., Philadelphia 3, Pa.

II.

National Information Processing Organizations included in the International Federation of Information Processing Societies:

ARGENTINA

Sociedad Argentina de Calculo
c/o Mr. H. R. Ciancaglini
Facultad de Ingenieria
Universite de Buenos Aires
Buenos Aires

AUSTRALIA

Australian National Committee on Computation and Automatic Control
c/o Prof. John M. Bennett
The Adolph Basser Computing Lab
University of Sydney
Sydney

BELGIUM

Association Belge pour l'Application des Methodes Scientifiques de Gestion
c/o Professor M. Linsman
Centre Interdisciplinaire de Calcul
Universite de Liege
6, quai Banning
Liege

CANADA

Computing and Data Processing Society of Canada
c/o Prof. C. C. Gotlieb
Computation Centre
University of Toronto
Toronto 5, Ontario

CZECHOSLOVAKIA

Commission for Technical Cybernetics, Czechoslovak Academy of Sciences
c/o Ing. Jiri Kryze
Head, Computing Center
Institute of Information, Theory & Automation
Czechoslovak Academy of Sciences
Ceskomalinska 25
Prague 6

DENMARK

Danish Academy of Technical Sciences
c/o Dr. Niels I. Bech
Regnecentralen
Gl. Carlsbergvej 2
Copenhagen-Valby

FINLAND

The Finnish National Committee for Information Processing
c/o Prof. Pentti Laasonen
Finland Institute of Technology
Helsinki

FRANCE

Association Francaise de Calcul et de Traitement de l'Information (AFCALTI)
c/o Mr. J. Carteron
Institut d'Astrophysique
98 bis. Boulevard Arago
Paris 14e

GERMANY

Deutsche Arbeitsgemeinschaft für Rechen-Anlagen (DARA)
c/o Prof. Dr. A. Walther
Technische Hochschule
Darmstadt 16

ITALY

Associazione Italiana per il Calcolo Automatico
c/o Mr. A. Ghizzetti
Instituto Nazionale per le
Applicazione del Calcolo
7, Piazzale delle Scienze
Rome

JAPAN

Information Processing Society of Japan
c/o Prof. H. Yamashita

c/o Japanese Electronic Industry
Development Association
Nishikubo Tomoecho
Minatoku
Tokyo

NETHERLANDS

Nederlands Rekenmachine Genootschap
c/o Prof. Dr. Ir. A. van Wijngaarden
Mathematisch Centrum
2e Boerhaavestraat 49
Amsterdam

NORWAY

Norwegian Society for Electronic Information Processing (NSEI)
c/o Mr. Jan V. Garwick
Chairman NSEI
Norwegian Defense Research Establishment
Kjeller pr Lillestrom, Norway

POLAND

Polish Academy of Sciences
c/o Prof. Leon Lukaszewicz
Koszykowa 79, ZAM
Warsawa

SPAIN

Instituto de Electricidad y Automatica
c/o Prof. J. G. Santesmases
Instituto de Electricidad y Automatica
Facultad de Ciencias
Ciudad Universitaria
Madrid 3

SWEDEN

Swedish Society for Information Processing
c/o Mr. Borje Langefors
SAAB
Linkoping, Sweden

SWITZERLAND

Swiss Federation of Automatic Control
c/o Dr. A. P. Speiser
IBM Research Laboratory
Zurichstrasse 108
Adliswil-Zurich

UNITED KINGDOM

British Computer Society
c/o Prof. M. V. Wilkes
University Mathematical Laboratory
Corn Exchange Street
Cambridge
or
Finsbury Court
Finsbury Pavement
London, EC2

UNITED STATES

American Federation of Information Processing Societies
c/o Mr. I. L. Auerbach
Auerbach Corporation
1634 Arch Street
Philadelphia 3, Pa.

U. S. S. R.

Academy of Sciences of the U. S. S. R.
c/o Prof. A. A. Dorodnicyn
Computing Centre
Academy of Sciences of the U. S. S. R.
I-Academichesky Proezd 28
Moscow B-312

III.

Other Computer Associations or Associations with Computer Interests (Not Regional)

American Institute of Electrical Engineers, 29 West 39th St., New York 18, N. Y., U. S. A.

Association for Computing Machinery, 14 East 69 St., New York 21, N. Y., U. S. A.

Association of Data Processing Service Organizations, 1000 Highland Ave., Abington, Pa., U. S. A.

Association Internationale pour le Calcul Analogique, 50 Ave. Franklin D. Roosevelt, Bruxelles, Belgium

Business Equipment Manufacturers Association (BEMA), c/o Richard L. Waddell, 235 East 42nd St., New York 17, N. Y., U. S. A.

European Computer Manufacturers Association (ECMA), Geneva, Switzerland

Institute of Radio Engineers, Professional Group on Electronic Computers, One East 79 St., New York 21, N. Y. U. S. A.

National Machine Accountants Association, International Administrative Headquarters, 524 Busse Highway, Park Ridge, Ill., U. S. A.

Northwest Computing Association, Box 836, Seahurst, Wash., U. S. A.

Provisional International Computation Centre, Rome, Italy

IV.

Regional Computer Associations

A. Chapters of the Association for Computing Machinery in the United States

ALABAMA

Mid-Southeast, Alabama Chapter, C. L. Bradshaw, Computation Div., George C. Marshall Flight Center, Huntsville, Ala.

Montgomery Chapter, Hugh Wakefield, c/o Mitre Corp., 202 Lee St., Montgomery, Ala.

ARIZONA

Sierra Vista Chapter, Fletcher W. Donaldson, P.O. Box 997, Sierra Vista, Ariz.

CALIFORNIA

Arrowhead Chapter (San Bernardino), c/o Donald Buswell, Code 643, Naval Ordnance Lab., Corona, Calif.

Los Angeles Chapter, c/o B. F. Handy, Litton Industries, 5500 Canoga Ave., Woodland Hills, Calif.

Orange County Chapter, c/o Don Robinson, Minneapolis-Honeywell, Datamatic Div., Los Angeles, Calif.

San Diego Chapter, T. R. Dines, 5921 Lancaster Dr., San Diego 20, Calif.

San Fernando Valley Chapter, c/o Werner L. Frank, Ramo-Wooldridge, 8433 Fallbrook Ave., Canoga Park, Calif.

San Francisco Bay Area Chapter, c/o Tom Wilder, Director, Data Systems Div., Broadview Research, Burlingame, Calif.

University of Calif. Berkeley Student Chapter, Ralph E. Love, Jr., Univ. of Calif., Berkeley, Calif.

COLORADO

Rocky Mountain Chapter, c/o Paul Fullerton, Del-Cos, 1345 Stout St., Denver 4, Colo.

FLORIDA

Central Florida Chapter, c/o Dr. David Clutterham, The Martin Co. MP 200, Orlando, Fla.

Palm Beach Chapter, c/o Arthur E. Oldehoeft, Fla. Res. & Develop. Center, Pratt and Whitney Aircraft, P. O. Box 2691 West Palm Beach, Fla.

Southeastern Florida Chapter, James L. Thoreen, 69 Gardner Dr., Fort Walton Beach, Fla.

KENTUCKY

Kentucky Chapter, c/o Robert L. Droke, IBM Typewriter Div., Lexington, Ky.

LOUISIANA

Shreveport Chapter, c/o Edward Gordon, Research Dept., United Gas Corp., P. O. Box 1407, Shreveport, La.

Univ. of S. W. La. Student Chapter, Dr. James R. Oliver, Dir., Computing Center, Univ. of Southwestern La., Lafayette, La.

MASSACHUSETTS

Greater Boston Chapter, c/o R. C. Miller, M/C 807A, The MITRE Corp., P. O. Box 208, Bedford, Mass.

MICHIGAN

Detroit Chapter, Dr. Bernard A. Galler, Univ. of Michigan, Computing Center, North Univ. Bldg., Ann Arbor, Mich.

MISSOURI

Kansas City Chapter, c/o Gerald E. Berger, System Development Corp., Richards-Gebaur AFB, Grandview, Mo.

Mo. School of Mines & Metallurgy, Student Chapter, Ralph E. Lee, Director, Computing Center, Mo. School of Mines & Metallurgy, Rolla, Mo.

St. Louis Chapter, c/o Ray Hollenback, Ernst & Ernst, St. Louis, Mo.

NEW MEXICO

Rio Grande Chapter, c/o William J. Worlton, 4432-B Alabama St., Los Alamos, N. M.

NEW JERSEY

Atlantic County Chapter, Steve Pardee, TRW Computers Co., Bldg. 3 NAFEC, Atlantic City, N. J.

NEW YORK

Hudson-Mohawk Chapter, c/o D. L. Shell, Knolls Atomic Power Lab., General Electric Co., Schenectady, N.Y.

Kingston Chapter, C. R. Hollenbach, Box 94 Rt. 4, Saugerties, N. Y.

Long Island Chapter, c/o Mark T. Guss, Grumman Aircraft, Computing Group, Bethpage, N. Y.

Poughkeepsie Chapter, Robert L. Simek, IBM Corp., Bldg. 991, Poughkeepsie, N. Y.

Syracuse Chapter, Dave Bahrs, 10 Apple Tree Lane, Liverpool, N. Y.

NORTH CAROLINA

Western Carolinas Chapter, c/o Myron K. Simas, 815 Orchard St., Hendersonville, N. C.

OHIO

Cincinnati-Dayton Area Chapter, R. G. Claussen, General Electric Co., Building 305-FPLD, Cincinnati 15, Ohio

Cleveland Chapter, c/o George J. Moshos, NASA-Lewis Research Center, 21000 Brookpark Rd., Cleveland 35, Ohio

OKLAHOMA

Bartlesville Chapter, George R. Tait, Phillips Petroleum Co., Bartlesville, Okla.

Tulsa Chapter, C. J. Ladas, IBM Corp, 1307 South Boulder, Tulsa, Okla.

PENNSYLVANIA

Carnegie Inst. of Tech. Student Chapter, Dr. Alan J. Perlis, Computation Center, Carnegie Inst. of Tech., Pittsburgh 13, Pa.

Delaware Valley Chapter, c/o Saul Hanges, 120 E. 65th Ave., Philadelphia 20, Pa.

Pittsburgh Chapter, c/o Carl Saalbach, Westinghouse E. Pittsburgh Div., Pittsburgh, Pa.

TENNESSEE

Mid-Southeast Chapter, c/o Martin Hochdorf, TVA Computing Center, 116 Old Post Office Bldg., Chattanooga, Tenn.

TEXAS

Dallas-Fort Worth Chapter, c/o O. James Adair, 5305A Bryce St., Fort Worth, Tex.

Houston Chapter, c/o R. Rosencranz, Jr., 2342 McClendon, Houston 25, Tex.

UTAH

Utah Chapter, c/o Don Barney, 343 S. 11th East, Salt Lake City, Utah

WASHINGTON, D. C.

Washington D. C. Chapter, c/o Solomon Rosenthal, 1201 S. Courthouse Rd., Arlington 4, Va.

WISCONSIN

Milwaukee Chapter, c/o Richard Haertle, 7576 N. 43rd, Milwaukee, Wis.

B. Other Regional Associations:

No information received.

COMPUTER USERS GROUPS

— ROSTER

Following is a roster of groups of computer users. All additions, corrections, and comments will be welcome.

ALWAC Users Association / ALWAC III-E / Mr. Phillip Jarvie, Sec'y, c/o Alwac Computer Div., El-Tronics, Inc., 13041 S. Cerise Ave., Hawthorne, Calif.

AUA -- see ALWAC Users Association

Autonetics, computers -- see Recomp Users Group

Bendix G-15 Computer -- see G-15 Users Exchange Association

Bendix G-20 Computer -- see G-20 Users Group

BIO / Dr. James W. Sweeney, Sec'y-Treas, BIO, c/o Tulane University, 1430 Tulane Ave., New Orleans, La.

Burroughs Corp. -- see Cooperating Users Exchange and Datatron Users Organization

Burroughs 205 -- see Datatron Users Organization

Burroughs 220 -- see Cooperating Users Exchange

Control Data Corp. 1604 Computer -- see CO-OP

CO-OP / Control Data Corp. 1604 Computer / Mr. Robert J. Morrisette, Sec'y, CO-OP, Program Maintenance & Distribution, Control Data Corp., 3330 Hillview Ave., Palo Alto, Calif.

Cooperating Users Exchange / Burroughs 220 Computer / Mr. Ralph Keirstead, Sec'y, CUE, c/o Mathematical Sciences Dept., Computation Group, Stanford Research Institute, Menlo Park, Calif.

CUE -- see Cooperating Users Exchange

D-1000 User's Group -- see DATAMATIC 1000 User's Group

DATAMATIC 1000 User's Group / Honeywell D-1000 Computer / Mr. Martin N. Greenfield, Sec'y, D-1000 User's Group, c/o Honeywell Electronic Data Processing Div., 60 Walnut St., Wellesley Hills 81, Mass.

Datatron Users Organization (DUO) / Burroughs 205 Computer / Dr. Edgar L. Eichhorn, Sec'y, DUO, c/o Professional Services, 460 Sierra Madre Villa, Pasadena, Calif.

DUO -- see Datatron Users Organization

EXCHANGE -- see G-15 Users Exchange Association

FAST / Mr. Bruce Clark, Sec'y, FAST, c/o Ramo-Wooldridge, P. O. Box 997, Sierra Vista, Ariz.

FILE / Mr. Edward C. Marzo, Sec'y, FILE, c/o William Carter Co., Needham, Mass.

G-15 Users Exchange Association / Bendix G-15 Computer / Mr. Tak Yamashita, Sec'y, EXCHANGE, c/o Bendix Computer Div., The Bendix Corp., 5630 Arbor Vitae St., Los Angeles 45, Calif.

G-20 Users Group / Bendix G-20 Computer / Mr. Robert G. Noel, Chmn., G-20, c/o Space & Information Systems Div., North American Aviation, Inc., 12214 Lakewood Blvd., Downey, Calif.

GE-225 / GE-225 Computer / Mr. R. Pulfer, Pres. GE-225, c/o General Electric Co., Schenectady, N.Y.

GUIDE / IBM computers / Mr. Ottice Tidwell, Sec'y, GUIDE, c/o American Telephone & Telegraph Co., 301 Main St., White Plains, N. Y.

H-800 User's Association / Honeywell 800 Computer / Mr. Bert L. Neff, Sec'y-Treas., H-800 User's Association, c/o Metropolitan Life Insurance Co., One Madison Ave., New York 16, N.Y.

Honeywell 800 Computer -- see H-800 User's Association

Honeywell D-1000 Computer -- see DATAMATIC 1000 User's Group

IBM computer users' groups -- see GUIDE and SHARE

JUG / Joint User's Group / Mr. Donald B. Houghton, Sec'y, JUG, c/o Westinghouse Electric Corp., Business Systems Equipment, 3 Gateway Center - 15 West, Pittsburgh 22, Pa.

LGP-30 -- see POOL (Royal McBee Corp.)

LINC / Mr. James Nickitas, Sec'y, LINC, c/o Remington Rand Division, 315 Park Ave., S., New York 10, N.Y.

MCUG / Mr. James H. Burrows, Chmn, MCUG, c/o The Mitre Corp., P. O. Box 208, Lexington 73, Mass.

Minneapolis-Honeywell Regulator Co., computers -- see DATAMATIC 1000 User's Group and H-800 User's Association

National Cash Register Co. computers -- see NCR-304 and NCR 390 Users Organization

NCR-304 Users Organization / National Cash Register's NCR-304 Computer / L. J. Rushbrook, Sec'y, c/o The National Cash Register Co., Main & K Sts., Dayton 9, Ohio

NCR 390 Users Organization / National Cash Register's NCR-390 Computer / Mr. C. Richard Fruth, Chmn, NCR 390 Users Organization, c/o Professional Bldg., Fostoria, Ohio

PBUG / Packard Bell computers / Mr. Robert R. Manchester, Sec'y, PBUG, c/o Packard Bell Computer Corp., 1905 Armacost Ave., Los Angeles 25, Calif.

POOL / Royal McBee Corp. RPC-4000 and LGP-30 / Mr. James Saum, Sec'y-Treas, POOL, c/o Ord. Mgmt. Engr. Training Agency, Hq. Ord. Weapons Command, Rock Island Arsenal, Rock Island, Ill.

Radio Corp. of America computers -- see RCA 501 Users Association

RCA 501 Users Association / RCA 501 Computer / Mr. Don R. Anderson, Sec'y, RCA 501 Users Association, c/o Allegheny Ludlum Steel Corp., 2020 Oliver Bldg., Pittsburg 22, Pa.

Recomp Users Group (RUG) / Autonetics, Recomp computers / Mr. Zyg Jelinski, Sec'y, Recomp Users Group, c/o Autonetics Industrial Products, 3400 East 70th St., Long Beach 5, Calif.

Philco 2000 computer -- see TUG

Computer Users

Remington Rand Univac computers -- see Univac Users Association and USE
Royal McBee Corp. computers -- see POOL
RPC-4000 computer -- see POOL (Royal McBee)
RUG -- see Recomp Users Group
SHARE / IBM computers / Mr. David J. Farber, Sec'y, SHARE, c/o Bell Telephone Laboratories, Inc., Whippany, N.J.
TUG / Philco 2000 computer / Mr. D. Haggerty, Sec'y, TUG, c/o System Simulation Research Lab., System Development Corp., 2500 Colorado Ave., Santa Monica, Calif.
Univac computers -- see Univac Users Association and USE
Univac Users Association / Remington Rand Univac computers / Mr. David D. Johnson, Sec'y, Univac Users Association, c/o Ethyl Corp., P. O. Box 341, Baton Rouge, La.
USE / Remington Rand Univac computers / Mr. James Nickitas, Sec'y, USE, c/o Remington Rand Univac, 315 Park Ave. S., New York 10, N.Y.
UUA -- see Univac Users Association
III-E -- see ALWAC Users Association
205 -- see Datatron Users Organization (Burroughs)
220 -- see Cooperating Users Exchange (Burroughs)
304 -- see NCR-304 (National Cash Register Co.)
390 -- see NCR 390 Users Organization (National Cash Register Co.)
501 -- see RCA 501 Users Association
800 -- see H-800 User's Association (Honeywell)
1000 -- see DATAMATIC 1000 User's Group (Honeywell)
1604 -- see CO-OP (Control Data Corp.)
2000 -- see TUG (Philco Corp.)
4000 -- see POOL (Royal McBee)

- END -

ADDENDUM

Descriptions of Digital Computers

(Information received too late to be included in the table)

CDC 3600 / Control Data Corp., Minneapolis, Minn. / INTERNAL CHARACTERISTICS: solid state, 48 bit binary word, 32, 768 words of core storage expansible to 262,144 words, memory access time of 1.5u; ADD: 4u; MULT: 1-6u; DIV: 1-14u. Double precision MULT time is 2-26u. Code compatible with CDC 1604. Inter-register instructions. Two way-search instructions. Two bound registers of 18 bits each. Byte-scan operation / INPUT AND OUTPUT: I/O activity proceeds independently and asynchronously of main program. Interrupt capacity. Direct card reader input to arithmetic register. Parity check on all I/O data transmission. / COST AND USE: Scientific, business and real-time. Up to five 3600 computers can be linked together to form common system. Following programming systems planned to be utilized around Master Control System: Monitor System, COMPASS, FORTRAN, COBOL, and 1604 Compatibility Package

OVER 500 AREAS OF APPLICATION OF COMPUTERS

(Continued from page 144)

Psychological tests: analysis

20. Sociology

Data reduction and analysis

21. Statistics

Bernoulli probability
Beta function
Binomial coefficient calculations
Chi squared function calculations
Complex error function and integral
Correlation
Covariance
F-test
Factor analysis
Forecasting
Gamma function
Gaussian probability
Hypergeometric probability
Least-square-polynomial fitting
Moments
Moving averages
Multiple regression
Non-linear estimation
Period search
Poisson probability
Time series analysis and adjustment
T-test I (sample mean vs. population mean)
T-test II (difference between two means)
Variance: analysis

- END -

ROSTER OF PRODUCTS AND SERVICES

(Continued from page 94)

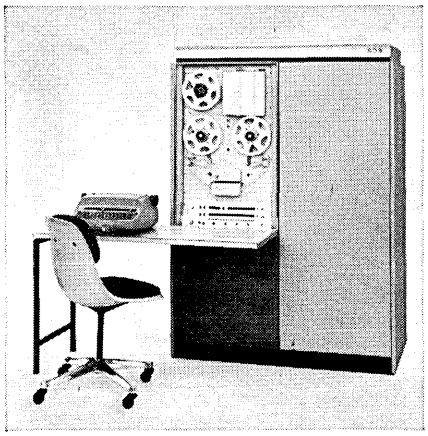
Strand Engineering Co., *a / Datronics 6A / DESCR: digital symbol generator. 8 bit input: generates CRT deflections signals for character or symbol. 64 or 128 symbols to specification. Asynchronous at 40 μsec / character maximum / USE: as a display system component / $7900 / V1
Strand Engineering Co., *a / Datronics 200 / DESCR: a general purpose digital display system, modualr construction including: buffer/programmer, symbol generator, line generator, monitor displays, microfilm recorders, asynchronous with over 25,000 operations per second / USE: on-line and off-line to computers and other digital systems / $35,000 to $75,000 / V1
Telecomputing Services, Inc. -- see D2A
Thompson Ramo Wooldridge Inc., RW Div.
Westinghouse Electric Corp., Electronic Tube Division -- see T19

- END -

A New Generation of Low Cost Computers

SDS 900 Series of high-speed, solid state, general-purpose digital computers are in production. First deliveries will be made in autumn. Designed with the user in mind, they are single address, random access core memory machines, intended for general-purpose scientific computation and special-purpose systems integration. Programming is simplified. Input/output is buffered and high speed. Computation rates are comparable to that of large-scale computers. SDS 900 Series computers are *symbolically homogeneous*—the programs from either machine can be run on the other. They are unusually reliable, with ferrite core memories, all-silicon semiconductors, and circuitry based on worst case analysis. Compare the following characteristics:

$89,000—Model 920



The 920 is an extremely fast, general purpose computer for scientific use. Its command structure includes built-in Floating Point and Multi-Precision instructions. In speed, characteristics, and working flexibility, it surpasses larger, more costly first generation solid state machines. When carefully compared on all of its operating parameters, the 920 clearly offers more general purpose scientific computing-per-dollar than currently available machines.

Memory & Speed The 920's basic core memory of 4,096 words is expandable to 16,384 words. Typical execution times for 24-bit operands, *including both memory access and indexing*, are: Add . . . 16 μsec. Multiply . . . **32** μsec. Floating point operations (24-bit mantissa plus 9-bit exponent) —Add . . . 192 μsec., Multiply . . . **184** μsec.; (39-bit mantissa plus 9-bit exponent)—Add . . . 368 μsec., Multiply . . . **272** μsec.

Standard Equipment All SDS 920 computers are delivered complete with 300 character/second paper tape reader, 60 character/second paper tape punch, input/output typewriter, and manual control and display of all registers. SDS magnetic tape units, converters, and other I/O devices are available as optional equipment.

Common Characteristics

Memory Characteristics

SDS 900 Series computer words contain 24 binary bits. An additional parity bit allows parity checking of all memory and input/output operations. Special logic makes memory non-volatile with power failure.

Input/Output Characteristics

SDS computers incorporate five separate input/output systems. One of these, a buffered input/output, allows data transfer at rates in excess of 120,000 characters/second. A priority interrupt system provides two standard plus 1024 optional channels. In addition to standard input/output devices, all SDS computers communicate directly with: IBM-compatible magnetic tape units, A-D converters, IBM 7090 computers, other SDS machines, and an unlimited range of additional input/output devices.

Programming Characteristics

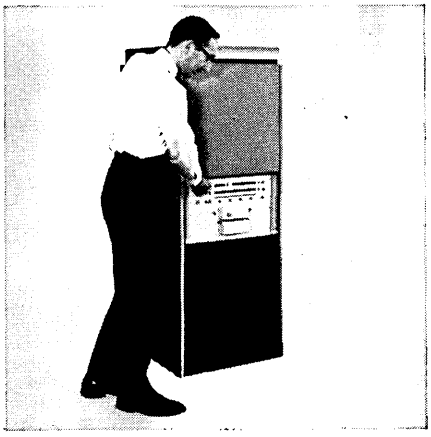
SDS single address instructions include both an Index Register and an Indirect Address bit. *Programmed Operator* instructions, an exclusive SDS feature, permit complete interchangeability of 910 and 920 programs. FORTRAN II with magnetic tape statements and a symbolic assembler are included in a complete SDS 900 series software package.

Write today for new SDS 900 Series Brochure

SDS
SCIENTIFIC DATA SYSTEMS

1542 FIFTEENTH ST., SANTA MONICA, CALIF.

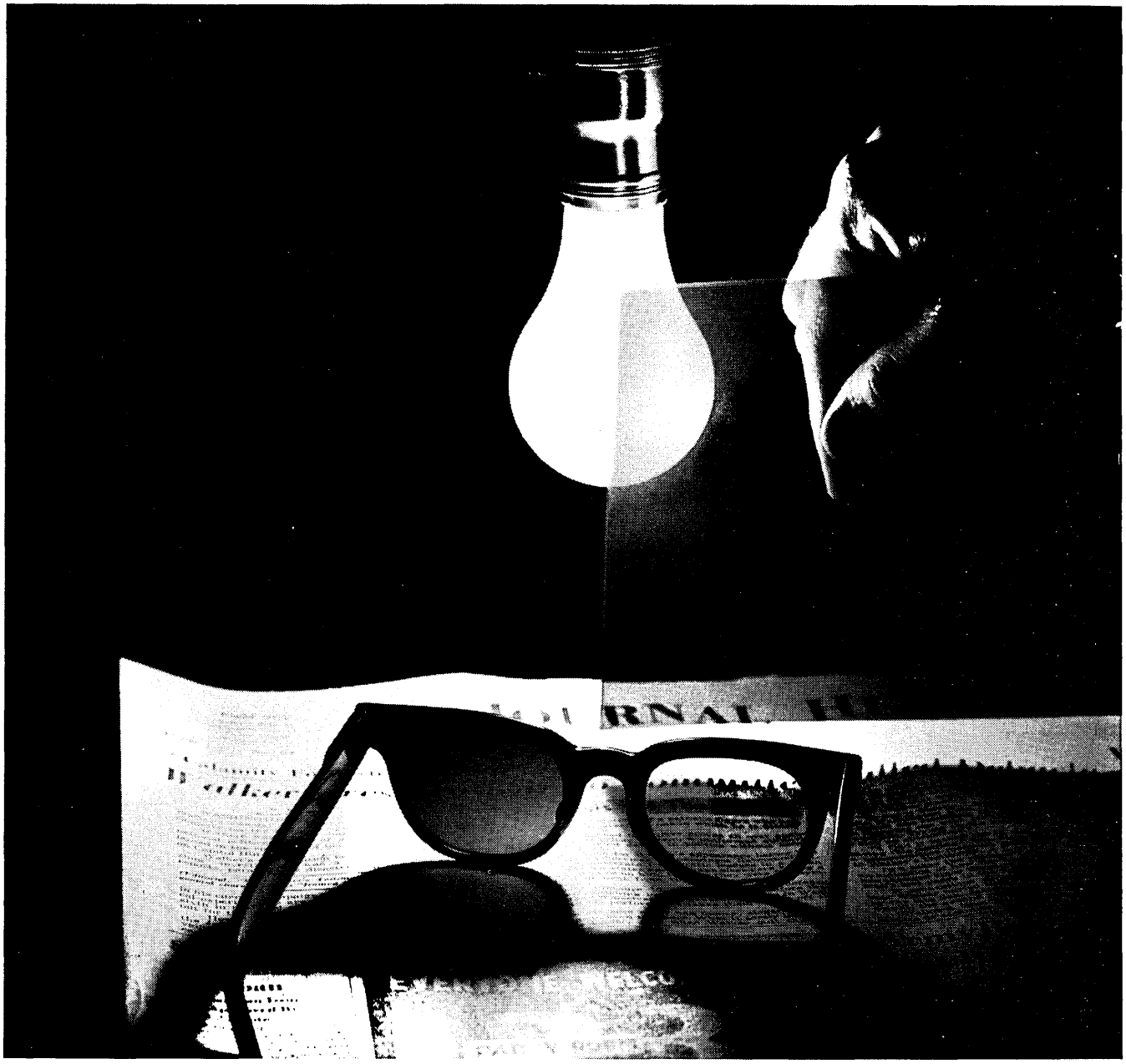
$41,000—Model 910



The 910 is the first random access, buffered input/output digital computer to be priced below $90,000. Although designed primarily for systems use, its high speed, working flexibility, and excellent performance allow it to be used as an extremely low cost general purpose machine. The 910 operates directly, without special coupling, with all types of input/output devices, including magnetic tape units, A-D converters, automatic typewriters and line printers.

Memory & Speed The 910's basic core memory of 2,048 words is expandable to 16,384 words. Typical execution times for 24-bit operands, *including both memory access and indexing*, are: Add . . . 16 μsec. Multiply . . . 248 μsec. Floating Point operations (24-bit mantissa plus 9-bit exponent) Add . . . 640 μsec., Multiply . . . 656 μsec.; (39-bit mantissa plus 9-bit exponent)—Add . . . 1,984 μsec., Multiply . . . 2,040 μsec.

Standard Equipment All SDS 910 computers are delivered complete with a 300 character/second paper tape reader and manual control and display of all registers. SDS magnetic tape units, converters, 60 character/second paper tape punch, automatic typewriter, and other I/O devices are available as optional equipment.



Wouldn't it be wonderful if someone invented... sun glasses that grow darker as the sun gets brighter?

As a matter of fact, the chemists, physicists and engineers who work at research for NCR have come up with a development that makes just such glasses possible.

But you won't be able to buy sun glasses labeled NCR for some time . . . if ever.

For, you see, the glass that changes with the light was developed for quite another use. It is among the many new and important projects currently in process by NCR's two thousand research and development workers. And, like all the others, it has as its central focus the objective of improving the capacity and efficiency of computers, calculators and other machines in modern business systems.

The secret of the glass that changes color is being explored to enhance the speed and flexibility of data processing systems. The use of photochromism is an extremely advanced method of increasing the utility of electronic computers. The operating principle is based on color changes which occur under varying wave lengths of light.

Obviously, this principle has application to other complex commercial and military devices which we can't discuss here.

It's another reason why we say. Look to NCR for the forward developments dedicated to providing the finest in total systems . . . from original entry to final report — through NCR accounting machines, cash registers, adding machines and electronic data processing.

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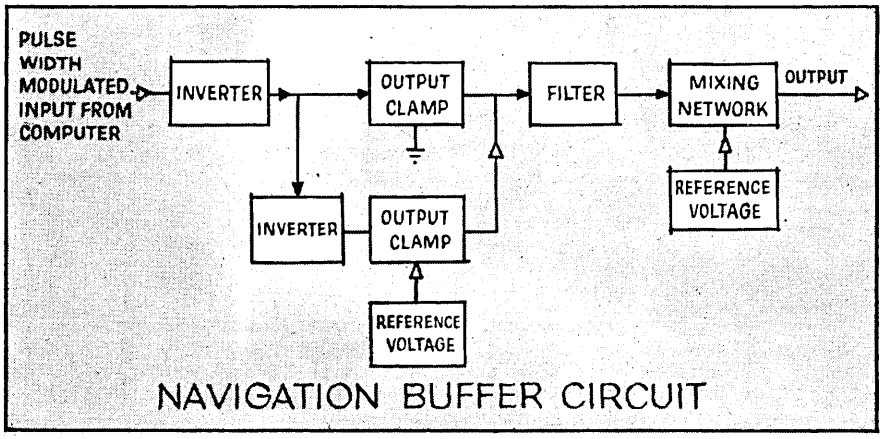
New sign of The National Cash Register Company, Dayton 9, Ohio—1,133 offices in 120 countries—78 years of helping business save money

SKIRMISH OVER A COMPUTER-TO-INERTIAL-PLATFORM INTERPRETER



NAVIGATION BUFFER CIRCUIT

What is the best way to implement the digital-to-analog conversion circuitry required to convert binary incremental signals from a digital computer to precise d.c. voltages for gyro torquing in an airborne tactical data system? This was a problem faced by Litton data systems engineers.

Several engineers who had participated in the development of an earlier navigation buffer employing the digital servo technique were strongly inclined towards playing it safe by adopting an identical approach. To permit the navigation system to sustain the longer flights required under the new program, they proposed engineering greater accuracy into the existing buffer. Somehow, they felt, the additional requirements for lesser weight and volume could also be met. Preliminary investigation revealed that this scheme would require at least 20 pounds of hardware.

Feeling that a better way could be found, other engineers studied alternate approaches and finally proposed a scheme for generating d.c. gyro torquing voltages scaled according to width-modulated pulses linearly related to computer word length. This approach appeared to hold promise of an accuracy of at least 1 part in 4000 (0.025%), which was specified for two of the required eight signals (six for the inertial subsystem; two for the cockpit display system). The pulse width modulation/demodulation method also appeared to require far less hardware than would the digital servo technique because of the elimination of heavy electromechanical components.

Skeptics were quick to point out that the specified precision would be impossible to obtain in view of errors inherent in pulse-width modulation, delays and rise times in the precision switch, switch offset voltage, reference supply voltage, filter capacitor leakage and stability, filter lags, drum speed variation, and signal line ground currents.

Undaunted, the advocates of the new method pressed ahead, conducted detailed studies and laboratory investigations to nullify all objections and verified the complete feasibility of their proposed scheme.

Now functioning as part of a tactical data system installed in a carrier-based aircraft, this eight-signal navigation buffer is packaged on five 3" x 3" cards and two small assemblies. Weight and volume are about one-fifth of that required for a digital servo type of buffer. More recently, new packaging techniques have enabled reduction of the buffer unit by an additional 40% to two cards and two assemblies without degrading accuracy.

Litton management recognizes the value of results stimulated by healthy controversy. Security and proprietary restrictions preclude our discussing current activities, but new programs offering many new technical challenges are now being conducted. And Litton continues to encourage an environment in which engineers can propose and pursue other than safe approaches to problems. If you've been frustrated in your attempts to follow through on new approaches to digital data handling and display functions, write Harry E. Laur, Litton Systems, Inc., Data Systems Division, 6700 Eton Avenue, Canoga Park, California; or telephone DIamond 6-4040.

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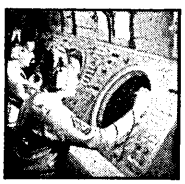
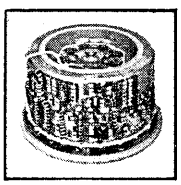
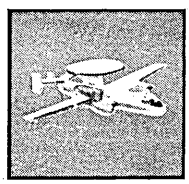

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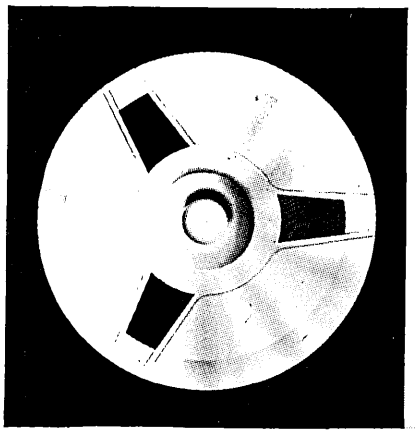

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Study and formulate new data processing systems for scientific and commercial applications.

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Develop generalized programming languages using experience with machine oriented languages such as SAP, problem oriented languages such as FORTRAN and COBOL.

Design Automation and Product Test

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The above areas require a minimum of two years experience in programming preferably with large-scale systems, and the ability to assume a high degree of technical responsibility.

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- Game Playing
- List Processing Techniques
- System Design
- Language Analysis
- Information Retrieval
- Artificial Intelligence
- Operations Research
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All inquiries are treated confidentially. Fees and relocation expenses paid for by client company.

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