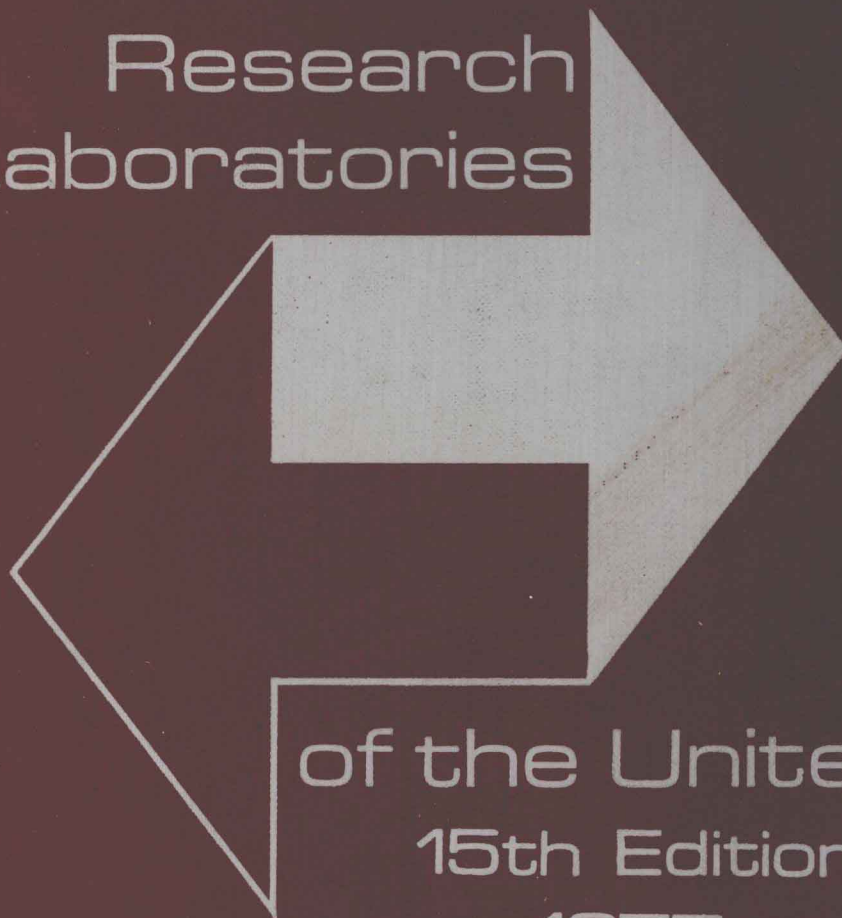


Industrial
Research
Laboratories



of the United States
15th Edition
1977

Industrial
Research
Laboratories



of the United States
15th Edition

1977

Edited by Jaques Cattell Press

R. R. Bowker Company
New York & London

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Industrial
Research
Laboratories
of the United States

Preface

The 15th edition of *Industrial Research Laboratories of the United States* represents the continuance of a publication long considered to be invaluable as a guide to research and/or development activities conducted by non-governmental or nonacademically supported organizations. The first eleven editions were published by the National Academy of Sciences/National Research Council. The R. R. Bowker Company became the publisher with the twelfth edition (1965), and the Jaques Cattell Press as their subsidiary edit and compile the directory.

This edition contains information on 10,028 R&D facilities belonging to 6947 organizations engaged in fundamental and applied research, including development of products and processes. Most of the facilities are owned and operated by industrial firms but some foundation and cooperatively supported units are also entered, as well as university laboratories having research facilities separate from university control.

The majority of the entries have been compiled from data provided by the people within the organizations who are responsible for the R&D activities. A few listings were constructed from public information for organizations who were known to be involved in an R&D effort and who had *not* responded to several requests. To insure accuracy, however, proofs of *all* entries were sent to organizational officials requesting final updating and verification prior to publication. Entries with data obtained from other than direct contact are marked with an asterisk.

Some firms included in the 14th edition are not listed in the 15th for the following reasons: some are no longer engaged in any R&D activity; others have gone out of business or have lost their identities through absorptions by other firms; some privately-owned organizations declined to be listed. A number of the entrants have advised that although they wish to be included, they object to the name of the directory; while they do much R&D work, they are not an “industrial” organization nor do

they conduct their activity within the confines of a conventional "laboratory." Thought will be given prior to compilation of the next edition as to whether a name change of the directory might be a solution for this group, or whether an entirely separate directory listing non-industrial research organizations is called for.

The editors have made a concerted effort to reproduce the material as accurately and completely as possible within the confines of format and scope. However, the publishers do not assume and hereby disclaim any liability to any party for any loss or damage caused by errors or omissions in *Industrial Research Laboratories of the United States*, whether such errors or omissions result from negligence, accident or any other cause.

Gratitude is expressed to the companies who contributed thousands of manhours completing the questionnaires, and verifying the data on the proofs, particularly those who provided detailed reports on research facilities of large and diversified organizations. Recognition is given to Nina Bricker, who did the indexing under the subjects for the index to research activities.

Suggestions and content evaluations are invited, and should be directed to The Editors, *Industrial Research Laboratories of the United States*, P.O. Box 25001, Tempe, Arizona 85282.

BONNIE GROSS, *Assistant Editor*
ANNE RHODES, *Managing Editor*
STEVE NICHOLS, *General Manager*

Jaques Cattell Press

November 1977

Format and Content of Entries

The directory follows a single alphabetical format. Except in cases where the organizations requested otherwise, divisions have been listed alphabetically below the headquarters or parent entries, and in some cases under those entries which describe designated central research establishments. Subsidiary entries follow divisions, with foreign laboratory divisions listed last within each corporate group. Divisional entries are preceded by one dash and entries of subdivisions by two or more dashes to show reporting responsibility. An asterisk placed after the company name indicates that information did not come from the company itself but was found in other published sources.

Cross-references are entered alphabetically for all divisions and subsidiaries with individual names belonging to another organization.

A code, consisting of the letter under which the company is alphabetized and a number indicating its chronological position within that letter grouping, precedes the parent company name. In a few instances, material received after the numbering was completed was assigned a double letter and the number of the preceding entry so the company could be placed in alphabetical sequence.

Each divisional level and research facility is preceded by a decimal number. These numbering codes are used in the *Geographic*, *Personnel*, and *Subject Indexes* to refer the user to the appropriate text entry. The small letter codes to the right of each entry indicate the type of activity performed by each facility. Page *footnotes* provide the key to this coding.

In general, basic content of individual entries follows the same pattern established for previous editions. Name, address, telephone number, officers of company and, where applicable, divisions or subsidiaries;

name and address of laboratories with names and titles of chief administrative and research executives; number of professional staff and number with doctoral degrees, followed by disciplines of R&D responsibility. The entries end with a statement of chief R&D activity. Detailed items do not appear in every entry since many organizations have policies which restrict publication of certain information.

All facilities listed are indexed geographically under the city and state in alphabetical sequence. The *Personnel Index* is an alphabetical arrangement of all names included in the entries. The *Subject Index* is an important key to the general R&D activities at each installation. Numbers in all the indexes refer to the number of the text entry, not the page number.

ABBREVIATIONS USED IN THE TEXT ENTRIES:

Admin—Administration,	Lab—Laboratory
Administrative	Mgr—Manager
Asst—Assistant	N—North
Assoc—Associate	Pl—Place
Ave—Avenue	Pres—President
Bldv—Boulevard	R&D—Research and
Bldg—Building	Development
Chmn—Chairman	Rd—Road
Dept—Department,	Secy—Secretary
Departmental	Sr—Senior
Dir—Director	S—South
Dr—Drive	St—Street
E—East	Supt—Superintendent
Exec—Executive	Treas—Treasurer
Gen—General	VChmn—Vice Chairman
Hwy—Highway	VPres—Vice President
Jr—Junior	W—West

Industrial
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of the United States

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Industrial Research Laboratories of the United States

15th Edition

A

- A1 A A GRINDING CORP,* 27351 Tungsten Rd, Euclid, OH (p)
44132. (216) 261-7677
Pres: Art Roberts; Exec VP: Jim Roberts; Personnel Mgr: Mike Roberts; Chief Engineer: W Camp
Field of R&D: Header tooling; steel milling; roll parts; air tool parts; hydraulics
- A2 A ALERT INERT GAS WELDING CORP,* 5531 Brecksville (p)
Rd, Independence, OH 44131. (216) 524-2426
Pres: John Sorokes; VP: John Mille
Field of R&D: Welding and fabricating
- A3 A & D ASSOCIATES, 336 Baker Ave, Concord, MA (p)
01742. (617) 369-5363
Gen Mgr: Albert Spitzak
Field of R&D: Data acquisition and control, servomotor control, data entry for remote jobs, communication modems for data transfer, machine tool controllers
- A4 A & J ENTERPRISES, INC,* 8919 Paul B Koonce, Houston, (p)
TX 77061. (713) 644-7777
Pres: Dr J W Rice
Field of R&D: Management systems evaluations in area of aircraft maintenance, avionics maintenance, aircraft flight training; evaluations of technical training programs
- A5 A&L AGRICULTURAL LABS, INC, 2176 Dunn Ave, Mem- (fct)
phis, TN 37114. (901) 744-6460
VP & Mgr of Technical Information Services: Dr Richard Large; Lab Supervisor: Dan Moffett
- .1 -A&L Midwest Agricultural Laboratories Inc, 11902 Elm (fct)
St, Omaha, NE 68144. (401) 334-7770
Managing Dir: Kennard Pohlman; Dir of Research: Dr Jerry Hohla; Lab Supervisor: John Torpy
- .2 -A&L Great Lakes Agricultural Laboratories Inc, 5011 (fct)
Decatur Rd, Ft Wayne, IN 46806. (219) 456-3545
Pres: Donald L Ankerman; Managing Dir: Jan R Zweip; Lab Supervisor: Dennis Reed
Professional staff at all three laboratories 18 (3 doctorates): Residue analysis; microbiology; soil physics; agronomy; chemistry; seed technology; 30 technicians and auxiliaries
Field of R&D at all three laboratories: Applied and product-oriented research on fertilizer use, foliar sprays, animal nutrition, industrial waste materials on agricultural soils, use of animal waste for fertilizer and feeding value

- A6 A & P COOP CO (Division of Angelo Industries Inc), (pfct)
103 N Gee, Jonesboro, AR 72401 (Mail: PO Box 846, Jonesboro, AR 72401). (501) 932-7733
Chief Operating Exec: James Frank Angelo, Jr; VP: James Frank Angelo, Jr; Chief Research Exec: James Frank Angelo; Engineers: Dr Henry Hicks and Dr Ken Deayer
Professional staff 18 (3 doctorates): Energy; technicians and auxiliaries
Field of R&D: Research on charcoal and energy production from wood and cellulose wastes

AAI CORPORATION

See United Industrial Corp

AAR TECHNICAL CENTER

See Association of American Railroads

- A7 ABA INDUSTRIES, INC,* PO Box 517, Pinellas Park, FL (p)
33565. (813) 546-3571
Pres: Alan K Anderson
Field of R&D: Design and development of electromechanical systems, including antenna-pedestal systems, digital controls and analog systems, digital control and readouts, and simulators for training
- A8 A B C DIGITAL ELECTRONICS, 25 Charles St, Westwood, NJ 07675. (201) 666-2458
Chief Operating Exec: Benjamin K Cheng; Public Relations Officer: Richard A Wood
- .1 -Automation Dynamics Division, 25 Charles St, Westwood, (fc)
NJ 07675. (201) 666-2554
Technical Dir: Benjamin K Cheng; Dir of R&D: Chi H Wu
Professional staff 7 (1 doctorate): Electronic engineering; 11 technicians and auxiliaries
Field of R&D: Digital electronics production test systems and method devices

ABC RESEARCH CORPORATION

Now American Bacteriological and Chemical Research Corporation

- A9 ABL GENERAL SYSTEMS CORP,* 69 Hampton Pl, Freeport, NY 11520. (516) 546-8088
Gen Mgr: A B Hersch

(p) research for parent company (f) contract research for others (c) consultation for others (t) testing and analysis for others

Field of R&D: Design, development and fabrication of sophisticated electrical and electronic feedback components utilized in aircraft such as engine condition monitoring on the F-14; development of printed circuit boards and bioengineering devices

AC SPARK PLUG DIVISION

See General Motors Corporation

- A10 A C D CORP, 2646 Keenan Ave, Dayton, OH 45414. (513) (pf)
275-3355
Gen Mgr: W F Sommer; Operations Manager: Ron Keil; Administrative Assistant: Jean Milet
Field of R&D: Custom electronic controls and digital communications

ACD DIVISION

See Aero Components Division of Astropolymers Laboratories, Inc

- A11 ACF INDUSTRIES, INCORPORATED, 750 Third Ave, New York, NY 10017. (212) 986-8600. Telex: 12-5491. Cable: ACFUSA
Chmn of the Board: John F Burditt; Pres: Henry A Correa; Dir of Communications: Curtis L Anders
- .1 -AMCAR DIVISION, Main & Clark Sts, Saint Charles, MO 63301, (314) 724-7850
VPres & Gen Mgr: James C O'Hara
- .2 --St Charles Technical Center, Main & Clark Sts, Saint Charles, MO 63301. (314) 724-7850 (p)
Dir of Engineering & Research: Conway H Melcher
Professional staff 5: Engineering; 17 technicians
Field of R&D: Design and development of railroad freight and tank cars and associated products; theoretical analysis of dynamic structures; instrumentation for static and dynamic testing of large structures; experimental methods for product evaluation; development and testing of materials, systems, components and subsystems related to rail freight transportation
- .3 -Carter Automotive Group, 9666 Olive St Rd, Saint Louis, MO 63132. (314) 997-7400 (p)
VPres & Gen Mgr: Robert A Johnson; Dir of Engineering & Research: John L Niebrzydowski
Field of R&D: Applied research and application engineering related to automotive fuel system, emission control system, and heater-air conditioning system components
- .4 -W-K-M Valve Group, PO Box 2117, Houston, TX 77001. (713) 499-1511 (p)
VPres & Gen Mgr: Willard E Kemp; Dir of Engineering & Research: Alton M Williamson
Field of R&D: Research on oil field, industrial, pipeline, and control valves and operators, liquid level controls, pneumatic instruments, subsea fluid control systems, valves for high-pressure, high-temperature services, and railroad equipment such as hydraulic cushioning devices, and trailer hitches
5. -The Polymer Corporation, 2120 Fairmont Ave, Reading, PA 19605. (215) 929-5858 (p)
Pres: Raymond F Rogers
Field of R&D: Applied research including formulation, fabrication, and polymerization on polyamides, polyacetals, ultra-high molecular weight polyethylene and other thermoplastic and thermosetting polymers for industrial use
- A12 ACG INCORPORATED, 232 Front Ave, West Haven, CT (pfct) 06516. (203) 776-6990
Pres & Dir of Research: Andrew C Grimaldi; Public Relations Officer: C B Grimaldi; Mgr of Technical Information Services: V Conant; Safety Officer: T Pawluk
- .1 -ACG Isotech Inc, 232 Front Ave, West Haven, CT 06516. (pfct) (203) 933-8000
Pres & Dir of Research: Andrew C Grimaldi
Professional staff for both facilities 5: Vibration and electromechanical technology; chemical-elastomer engineering; dynamics; materials properties; 2 technicians and auxiliaries
Field of R&D for both facilities: Applied research in vibration technology including system analysis, testing equipment design, isolation systems and component design; electromechanical and elastomer applied research, applied to vibration technology field

- A13 ACL-FILCO CORPORATION,* 3333 W Warner Ave, Santa Ana, CA 92704. (714) 979-5500 (f)
Gen Mgr: Edward Ravin
Field of R&D: Aerospace ground support equipment; automated test equipment; fluid conditioning equipment; vapor recovery equipment; nuclear energy thermal conditioning; instrumentation and control systems

- A14 ACLS CORPORATION, 6900 Wisconsin Ave, Chevy Chase, MD 20015. (301) 656-5432 (fc)
Pres: John L Loeb; VPres: F R Fearnow
Field of R&D: Technical and management consulting and services in aircraft navigation, air traffic control and aircraft landing systems; included are both airborne and ground elements for enroute and terminal navigation, final landing control, digital data communications and data processing displays

- A15 ACT (THE AMERICAN COLLEGE TESTING PROGRAM), (pfct) PO Box 168, Iowa City, IA 52240. (319) 356-3711
Pres: Dr Oluf M Davidsen; VPres of R&D: Dr Richard L Ferguson; Program VPres for Planning & Public Affairs: Dr C Theodore Molen; Dir of Personnel Services: Robert Pass; Librarian: Lois Renter
Professional staff 29 (17 doctorates): Educational statistics, measurement, higher education, counseling psychology, economics of education
Field of R&D: Applied research in education, particularly at the secondary and postsecondary level, concerned with testing, use of test results by students and colleges, career guidance, and research in higher education

- A16 ADC PRODUCTS,* 4900 West 78th St, Minneapolis, MN 55435. (612) 835-6800 (p)
Gen Mgr: K J Hiebel
Field of R&D: Design and manufacturing of telecommunications equipment, specifically telephone access and telephone test equipment; transformers, filters and other magnetic products for aerospace, aviation and data processing

ADT

See American District Telegraph Co

- A17 A D G O INC,* 3988 McMann Rd, Cincinnati, OH 45245. (513) 752-6880 (p)
Pres: D A Westerkamp; Exec VPres: J R Fleck. Chief Engineer: L J Beerman
Field of R&D: Electrical and electronic apparatus

AEC CONTRACT GROUP

Now ERDA Contract Group of EG&G, Inc

- A18 AEC-ABLE ENGINEERING CO, INC, PO Box C, Suite S, 350 S Kellogg Ave, Goleta, CA 93017. (805) 964-1551 (p)
Pres: Robert F Crawford; VPres: David L Coleman
Professional staff 4 (1 doctorate): Mechanical engineering; 2 technicians
Field of R&D: Applied and product-oriented research and development of deployable space structures and their related composite materials; development of deployable ground structures and other types of specialized mechanisms; solar power systems and airframe development

AEL

See American Electronic Laboratories, Inc

AFL-CIO

See American Federation of Labor and Congress of Industrial Organizations

- A19 AGM, INC, 2112 Third Ave, Suite 304, Seattle, WA 98121. (206) 624-9920 (pfct)
Pres: Joseph O Epler; VPres: James C Thebaut; VPres of Research: Dr William T Kreiss
- .1 -ACOUSTECH Division, 2112 Third Ave, Suite 304, Seattle, WA 98121. (206) 624-9920 (pfct)
Dir of Consulting Services: Clifford F Peistrup; Dir of Research & Product Development: Arun G Jhaveri

- .2 --Northwest Environmental Technology Laboratory, Inc. (pfct)
2112 Third Ave, Suite 304, Seattle, WA 98121. (206) 624-9920
Pres: Dr William T Kreiss; VPes: John M Lansinger and William Tank; VPes of Engineering: Herbert J Schwarz
Professional staff for all facilities 19 (3 doctorates): Meteorology; engineering; physics; oceanography; biology; land use planning; chemistry; economics; technical writing; computer systems; 14 technicians and auxiliaries
Field of R&D for all facilities: Visibility measurements with laser transmissometer; particulate measurements at long range; ultrasonic measurements of fat in milk and meat; transportation, industrial and environmental noise and vibration measurements, analysis and control
- A20 AHF MARKETING RESEARCH, INC., 801 Second Ave, (p)
New York, NY 10017. (212) 889-3000
Pres: Arthur LaPorta
Field of R&D: Custom market research, specializing in consumer product tests, tracking studies and market studies
- A21 A H SYSTEMS, INC.* 9710 Cozycroft Ave, Chatsworth, CA (f)
91311. (213) 998-0223
Gen Mgr: H Dean McKay
Field of R&D: Studies include evaluation of new technologies for advanced large scale integration semiconductor devices in telecommunications, electronic warfare, command and control and intelligence data collections; development, applications and deployment of microprocessors in communication systems; applied research in the areas of electronic warfare, spectrum engineering; frequency management; telecommunications; electromagnetic compatibility; electromagnetic pollution; electromagnetic pulse; radiation hazards
- A22 A-I-D LABS OF NY, INC. 30 Havens Pl, Brooklyn, NY 11233. (212) DI5-8448
Pres: Samuel S Aidlin
- .1 --Aidlin Automation, Inc, 2425 Atlantic Ave, Brooklyn, NY 11233. (212) EV5-4100 (pfct)
VPes: Stephen H Aidlin
- .2 --A-I-D Labs, 30 Havens Pl, Brooklyn, NY 11233. (212) DI5-8448 (pfct)
Head of Lab: Samuel S Aidlin; Safety Officer: Keith Ashley
Professional staff for both locations 10 (2 doctorates): Mechanical, methods and safety engineering; 10 technicians and auxiliaries
Field of R&D at both locations: Mechanical and methods engineering; strength of materials; automotive accident investigation; product liability
- A23 A-I-K INCORPORATED,* 27 South St, Freehold, NJ 07728 (p)
(Mail: PO Box 587, Freehold, NJ 07728). (201) 462-3864
Gen Mgr: A I Kravetz
Field of R&D: Research and development of mechanical assemblies used as ground support equipment for communication fields such as guys, harnesses, halyards, antenna tie-downs, fiber rope and wire rope assemblies
- A24 A K FIBERGLASTICS INC,* 602 Railroad, Springfield, OH (p)
45505. (513) 325-7016
Pres: Kenneth E Riggins; Exec VPes: Mildred J Riggins; VPes: Alma L Riggins
Field of R&D: Fiberglass duct works and tub and shower molds; starting blocks
- A25 AKO INC, Broad Brook Rd, Enfield, CT 06082. (203) 749-7441
Pres: Roland L Leclerc
- .1 --A-OK Testing Division, Broad Brook Rd, Enfield, CT (p)
06082. (203) 749-7441
Pres: Roland L Leclerc; Chief Research Exec: David Bensley; Chief Engineer: Willard Saxby; Librarian: Krystyna Blais
Professional staff 5: Electrical and mechanical engineering; 17 technicians and auxiliaries
Field of R&D: Mechanical developments in the precise measuring of torque, force and time
- A26 AMF INCORPORATED, 777 Westchester Ave, White Plains, NY 10604. (914) 694-9000. TWX: 710-568-1359.
Telex: 13-1517, 13-7389. Cable: AMMAFOCO WHP
Chmn & Chief Exec Officer: Rodney C Gott; Pres & Chief Operating Officer: W Thomas York; VPes for Engineering & Research: Dr Thomas W Butler, Jr; VPes of Public Affairs: Eldon E Fox
- .1 --Engineering and Research (pc)
689 Hope St, Stamford, CT 06907. (203) 325-1211. TWX: 710-474-2444
VPes for Engineering & Research: Dr Thomas W Butler, Jr
Professional staff 7 (5 doctorates): Chemistry; solid mechanics; metallurgy; electronics; computer science; physics; 4 auxiliaries
- .2 --Central Technical Staff (pc)
and
--Plastics Engineering Center, 689 Hope St, Stamford, CT 06907. (203) 325-2211
VPes for Engineering & Research: Dr Thomas W Butler, Jr
Professional staff 19 (5 doctorates): Chemistry; chemical and mechanical engineering; metallurgy; physics; 22 technicians and auxiliaries
Field of R&D for all three facilities: Applied and product-oriented research with polymers and plastic materials for recreational products, electromechanical components and industrial products; basic, applied research, and product development in filtration, filter media and liquid treatment processes; applied research in food and tobacco processing
- .3 --AMF Cuno Division, 400 Research Parkway, Meriden, CT 06450 (Mail: PO Box 904, Meriden, CT 06450). (203) 237-5541.
Telex: 96-2457
Pres: John R Mummert; VPes of Engineering: Robert G Barnes, Jr; Public Relations Officer: Lynda Healy
- .4 --Meriden Filter Laboratory, 400 Research Parkway, Meriden, CT 06450. (203) 237-5541 (p)
Mgr of Product Engineering: Raymond M Petrucci; Mgr of Media Development: Eugene Ostreicher
Professional staff 5 (1 doctorate): Mechanical and chemical engineering; 7 technicians
Field of R&D: Applied research on separation technology, properties of fibers and resins; product-oriented research on filter cartridges and media, water treatment equipment, ion-exchange resins, and membranes including microporous, ultra-filtration and reverse osmosis
- .5 --Stafford Springs Plant, Stafford Springs Laboratory and Pilot Plant, River Rd, Stafford Springs, CT 06076. (203) 684-2707. Telex: 09-9379 (p)
Lab Mgr: Michael Kilty
Professional staff 1: Chemical engineering; 1 technician
Field of R&D: Research on cartridge filtration using nonmetallic media, resin impregnated cellulose and wool cartridges, wound cellulose and synthetic cartridges, and cellulose glass pads; product-oriented research on filter cartridges and media
- .6 --AMF Electrical Products Development Division, 3001 Centreville Rd, Herndon, VA 22070. (703) 471-3111
Division Pres: S H Silver; Dir Engineering: Donald M Crisafulli
Professional staff 46; 47 technicians
- .7 --Electronics Research Laboratory, 3001 Centreville Rd, Herndon, VA 22070. (703) 471-3111 (p)
Division Pres: S H Silver; Dir Engineering: Don Crisafulli
Professional staff 19: Physics; electronic, electrical and mechanical engineering; 3 technicians
Field of R&D: Electronic and mechanical research and development oriented toward new commercial and consumer products for switching, timing, oceanography, display, education and protection, inspection and recognition, monitoring, alarm and control, and automatic transfer and handling
- .8 --AMF Tire Equipment Division, Sunflower Ave at Harbor Blvd, Santa Ana, CA 92704 (Mail: PO Box 1142, Santa Ana, CA 92702). (714) 540-6900. Telex: 67-8325 (p)
Division Pres: Bernard Rome; VPes Engineering: Jack Wireman; VPes Sales & Service: J J Kilcoyne; Mgr of Marketing Admin: H G Totzke
Professional staff 14; 11 technicians and auxiliaries
Field of R&D: Research on tire building concepts for new tires and retreading
- .9 --AMF World Tobacco Group, 6301 Midlothian Turnpike, Richmond, VA 23225. (804) 276-1900. Telex: 82-7496. (p)
Cable: AMF TOBACCO RCH
VPes & Group Exec: George J Kaltner; Pres of US Operations: Hayn v K F Kjerult
Professional staff 8: Chemistry; mechanical engineering; designing; drafting; 1 technician
Field of R&D: Product and process development on reconstituted tobacco products for the tobacco industry, based on analytically oriented research programs; mechanical engineering applied in product research and development for a complete range of tobacco handling, making and packaging equipment
- .10 --Apparel Equipment Division, 2115 W Laburnum Ave, Richmond, VA 23227. (703) 355-7961 (p)
Division VPes & Gen Mgr: John H Hinckle
Professional staff 9; 6 technicians

- .11 -Bakery Systems Division, 2115 W Laburnum Ave, (p)
Richmond, VA 23227. (703) 355-7961
Division VPRES & Gen Mgr: Gene H Carapico
Professional staff 22; 6 technicians
- .12 -Union Machinery Division, 2115 W Laburnum Ave, (p)
Richmond, VA 23227. (703) 355-7961. Telex: 82-7410 and
82-8316. Cable: AMMAFOCO RCH
Division Pres: Edward Perry
Professional staff 31; 12 technicians
Field of R&D for the above three divisions: Bakery research
including continuous and batch dough processing, mixing
processes, AMFlow and liquid sponge systems, divider
rounder and proofer systems and processes, and baking,
packaging and slicing processes; research in automated
apparel equipment, photo-optical sensing, fusing applications,
seaming and pressing, belt loop sewing and small part profile
stitching
- .13 -Potter & Brumfield Division, 200 Richland Creek Dr, (p)
Princeton, IN 47671. (812) 386-1000. TWX: 810-350-2343.
Telex: 27-8451
Division Pres: Joseph E Mulheim; Division VPRES of Engineer-
ing: Zeke R Smith; Dir of R&D: Walter J Richert; Dir of Per-
sonnel & Industrial Relations: James H Price; Safety Officer:
James Romerhausen
Professional staff 28: Electrical, mechanical and electronics
engineering; physics; chemistry; 96 technicians and auxiliaries
Field of R&D: Applied research, design, development, tooling,
testing, evaluation and analysis of solid state switching de-
vices, dry reed relays, precision snap and slide switches,
thermal and electromagnetic precision circuit breakers, cus-
tom hybrid assemblies, and a broad line of general purpose
electromagnetic relays; switching of electrical circuits with
solid state or mechanical devices which result in saleable
products
- .14 -AMF Voit, Inc, 3801 S Harbor Blvd, Santa Ana, CA
92704. (714) 546-4220
Pres: Marvin Rimland
- .15 --Research and Development Department, 3801 S Harbor (p)
Blvd, Santa Ana, CA 92704. (714) 546-4220. Telex: 67-8463
VPRES of R&D: Robert Bruce Henderson; Mgr Advertising &
Public Relations: Richard G Smith
Professional staff 8: Engineering; design drafting; administra-
tion; 3 technicians
Field of R&D: Research in plastics and rubber technology for
use in recreational products, manufacturing processes for
shaping metals and plastics, rubber technology for commercial
products, and underwater technology
- A27 AMR BIOLOGICAL RESEARCH, INC, 690-692 S Clinton (fct)
Ave, Trenton, NJ 08611. (609) 695-7700
Pres & Dir of Research: Dr S Margolin
Professional staff 3 (3 doctorates): Pharmacology; toxicology;
10 technicians and auxiliaries
Field of R&D: Acute and chronic toxicology in small and large
animals; inhalation, dermal and ophthalmic toxicity; pharma-
cology, including absorption, distribution and excretion; micro-
biology; radioisotope studies; regulatory affairs; carcino-
genesis
- A-OK TESTING DIVISION
See AKO Inc
- AP PARTS COMPANY
See Questor Corporation
- A28 APM HEXSEAL CORPORATION, 44 Honeck St, Engle- (pc)
wood, NJ 07631. (201) 569-5700. Telex: 13-3403
Pres & Dir of Engineering: Milton Morse; Chief Engineer:
R Lozier
Professional staff 2: Electrical and mechanical engineering;
2 technicians
Field of R&D: Development of static and dynamic environmental
seals for electronic devices; research in contact phenomena,
insulators, metal flow, and corrosion; design and development
of switch and shaft seals, armored power connectors, self-
sealing fasteners, screws, bolts, rivets, and colored filters for
miniature and subminiature clear lamps
- A29 A R A CORPORATION, 2844 Cascadia Ave, Seattle, WA
98144. (206) 723-4600
Pres: James A Curry
- .1 -Analysis Research Associates, 2844 Cascadia Ave, (pfc)
Seattle, WA 98144. (206) 723-4600
Dir: James A Curry; Computer Graphics: Dr G A Curry
Professional staff 3 (1 doctorate): Industrial engineering;
computer graphics; biochemistry; 1 technician
Field of R&D: Applied and product-oriented research in new
products; applications of computer generated graphics in the
home, business, education and government
- ARC CHEMICAL CORP
See Balchem Corporation
- ARC GASIFICATION AND ENVIRONMENTAL PROCESSES LAB
See Avco Corporation
- A30 A R C LABORATORIES, 9236 N Tenth Ave, Phoenix, AZ (fct)
85021. (602) 943-3573
Dir: John T Long, Jr
Professional staff 3: Hydrometallurgy; inorganic and organic
chemistry; 1 technician
Field of R&D: Applied research in hydrometallurgy of ores and
concentrates
- ARC LABORATORIES
See Andrulis Research Corp
- A31 A R F PRODUCTS, INC, Gardner Rd, Raton, NM 87740. (p)
(505) 445-3665
Chmn & Pres: Arthur Maciszewski; VPRES of Development:
Andrzej Przedpelski; Personnel Mgr: Larry Burda
Field of R&D: Development of home security equipment; labo-
ratory instruments for teaching analytical chemistry; electro-
lytic respirometer for use in oxygen uptake experiments in
biological systems; communication equipment
- .1 -Research and Development Laboratory, 2559 75th St, (fct)
Boulder, CO 80302. (303) 443-4844
Dir of Research: Larry G Stolarezyk
Professional staff 11 (1 doctorate): Mathematics; physics;
electrical engineering; 15 technicians
Field of R&D: Missile-borne transponders; receiver-transmit-
ter technology; signal generation; instrumentation for the envi-
ronmental sciences
- ARS-SPRAGUE-DAWLEY
See Mogul Corporation
- A32 ASE, INC,* 5090 Central Hwy, Airport Industrial Park, (p)
Pennsauken, NJ 08109. (609) 663-7690
Gen Mgr: Charles Laible
Field of R&D: Engineering development and testing in areas of
soil dynamics, impact testing, frangible structures, electro-
magnetic interference, servos, digital processors, telecommu-
nications and test instrumentation; engineering and design ser-
vices in the fields of civil, electrical, mechanical, structural,
dynamics and foundations including the preparation of plans,
specifications and test procedures
- A33 ASG INDUSTRIES, INC, PO Box 929, Kingsport, TN 37662. (615) 245-0211. Telex: 55-3411
Pres & Chief Exec Officer: F M Hernan; Mgr of Product De-
velopment: W C Cooke; Mgr of Advertising & Public Relations:
P S Stewart
- .1 -Corporate Laboratory, PO Box 929, Kingspoint, TN (p)
37662. (615) 245-0211
Mgr of Lab: T C Carson; Lab Admin: Ken Boyd; Librarian:
Norma Paige; Sr Technologist: William H Beazell; Technologist:
Charles Malcolm
Professional staff 6 (1 doctorate): Chemistry; physics; ceram-
ics and civil engineering; 6 technicians and auxiliaries
Field of R&S: Solar energy utilization; insulating architectural
glazing; safety glazing, architectural; fuel economics; emis-
sions control
- A34 ASL ENGINEERING, INC,* 495 S Fairview Ave, Goleta, (p)
CA 93017. (805) 964-6264
Pres: Alan H Roth
Field of R&D: Systems analysis, design, development and fabri-

cation of experimental prototype vehicles, transportation vehicles and advanced transportation systems; hardened missile facilities and operational ground equipment

A35 AST/SERVO SYSTEMS, INC, 930 Broadway, Newark, NJ (pct) 07104. (201) 484-4233. Telex: 13-9164
Pres: Julian F Reichman; VPres: Walter B Reichman
Professional staff: 17 technicians and auxiliaries
Field of R&D: Design, development, and testing of servo systems, servomechanisms, and related instrumentation

A36 ATL TESTING LABORATORIES* (Division of R&D Engineering Associates, Inc), 817 W Madison, Phoenix, AZ 85007. (602) 254-6181
Pres: Boyd Smith; VPres: Donald Green
Field of R&D: Materials, soils and geophysical engineering; construction inspection; foundation investigations; engineering geology; construction materials testing; environmental geology and ecology studies, specializing in the applied earth science of civil, geological, and geophysical engineering and research

A37 A-T-O INC, 4420 Sherwin Rd, Willoughby, OH 44094. (216) 946-9000. Telex: 98-5420
Chief Operating Exec: Harry E Figgie, Jr; VPres of Manufacturing & Chief Research Exec: Leonard J Barbee; Dir of Corporate Communications: James A Bailey

.1 -Automatic Sprinkler Corporation of America, PO Box 180, Cleveland, OH 44147. (216) 526-9900. Telex: 98-5406
Division Pres: W G Gilmore; Mgr of R&D: C B Barnett; Division Mgr of Industrial Relations: J A Walters
Professional staff 6: Mechanical, industrial and electrical engineering; 10 technicians and auxiliaries
Field of R&D: Fire protection systems and components development, utilizing the extinguishants water, foam, wet chemical, Halon and carbon dioxide

.2 -Badger-Powhatan, PO Box 398, Rte 9, Ranson, WV 25438. (304) 725-9721
Pres: W F Notzelman
Field of R&D: Development of hand and wheeled engines, all types of portable extinguishers, brass fittings for fire departments, automatic sprinkler systems manufacturers and fire truck manufacturers, and brass ground key stops

.3 -Essick Manufacturing Co, 1950 Santa Fe Ave, Los Angeles, CA 90021. (213) 629-3341
Pres: Gene Ausili
Field of R&D: Design and engineering of vibrating rollers, plaster and mortar mixers, pumps, compressors, road rollers, air coolers, and heating and cooling equipment

.4 -Hartman Systems Company, Electronic Concepts Section, 360 Wolf Hill Rd, Huntington Station, Long Island, NY 11746. (516) 427-7500
Pres: D F Barry
Field of R&D: Research, design and manufacture of navigation equipment, including radar, loran and automatic direction finders for military and commercial uses

.5 -Interstate Electronics Corp, 707 E Vermont Ave, Anaheim, CA 92805. (714) 772-2811
Pres: David T Scott
Field of R&D: Development of sophisticated missile instrumentation systems and tracking devices, digital computers, circuitry, brakes and appliances, residential smoke detectors and fire alarms, and oceanographic instrumentation

.6 -Kersey Manufacturing Co, PO Box 151, Bluefield, VA 24605. (703) 326-1121
Pres: Paul Allegretto
Field of R&D: Development of battery powered mining tractors, fire trucks for mine industries and vehicles for mines

.7 -Geo J Meyer Manufacturing Division, 4751 S Meyer Pl, Cudahy, WI 53110. (414) 481-5111. Telex: 02-6600. Cable: MEYERMAN
Pres: Gary O Haglund; VPres of R&D: Bruce G Copping

.8 -Product Development Department, 4751 S Meyer Pl, Cudahy, WI 53110. (414) 481-5111
Mgr of Product Development: Edward G Tronca
Professional staff 5: Electrical and mechanical engineering; chemistry; 13 technicians and auxiliaries
Field of R&D: Product development related to the packaging industry; filling, package handling, washing, labeling and conveying development

.9 -Rusco Electronic Systems, 1840 Victory Blvd, Glendale, CA 91201 (Mail: PO Box 5005, Glendale, CA 91201). (213) 240-2540

Professional staff 10: 25 technicians and auxiliaries
Field of R&D: Monitoring control systems; techniques of reading encoded information; personal identification systems

.10 -Safway Steel Products, 6228 W State St, Milwaukee, WI 53213. (414) 258-2700. TWX: 910-262-3146
Pres: Robert F Gray
Field of R&D: Development of metal scaffolding for construction, portable bleachers, gymnasium seats and risers, telescoping chair risers, playground and gymnasium equipment, light and medium contractors' equipment and heavy duty concrete shoring

.11 -Scott Aviation Products, 225 Erie St, Lancaster, NY 14086. (716) 683-5100. TWX: 710-263-1390. Telex: 09-1394
Pres: Ed J Fierle
Field of R&D: Fire safety and aviation products; first aid and portable monitoring instruments; continuous monitoring instruments and medical oxygen; aerospace quality control devices for gases flow monitoring

.12 -Ward Hydraulics, 23 Sisal St, Newark, OH 43055. (614) 345-9871
Pres: R E Stingel
Field of R&D: Development of hydraulic cylinders, fluid controls, vehicle mounted cranes, log loading machinery, and single and double acting heavy duty conventional and telescopic cylinders for stationary and mobile equipment

A38 AYO CO, INC, * 224 N Fehrway Rd, Bay Shore, NY 11706. (516) 242-4949
Gen Mgr: Anita Young
Field of R&D: Research, development and manufacturing in optics

AZ PRODUCTS DIVISION

See AZS Corporation

AA AZL RESOURCES, INC, 5025 E Washington St, Phoenix, AZ 85034. (602) 267-7511
Chmn & Chief Exec Officer: F Michael Geddes

.1 -Farmhand, Inc, 1011 First St S, Hopkins, MN 55343. (612) 938-7651
Pres: Richard McElheny; Research Dir: Donald Lomen; Communications Dir: Hugh Barclay
Professional staff 12: Mechanical and agricultural engineering; 17 technicians
Field of R&D: Development of agricultural machinery

AZS CHEMICAL COMPANY

See AZS Corporation

A39 AZS CORPORATION, 762 Marietta Blvd NW, Atlanta, GA 30318. (404) 873-1850
Corporate Pres & Gen Mgr: Dr Andrejs Zvejnieks

.1 -AZS Chemical Company, 762 Marietta Blvd, NW, Atlanta, GA 30318. (404) 873-1851
Technical Dir: Charles D Stewart; Plant Mgr: Donald G Callahan; Marketing Mgr: Roger R Butler
Professional staff 12: 3 technicians
Field of R&D: Textile chemicals and surfactants, emulsion polymers, alkyd resins, ether amines and related amino compounds

.2 -AZ Products Division, PO Box 67, Eaton Park, FL 33840. (813) 686-5131
Corporate VPres & Gen Mgr: Salvatore J Aparo; Lab Mgr: Raymond Freeman
Professional staff 4: 2 technicians
Field of R&D: Product-oriented research in the fields of ore flotation reagents, phosphoric acid defoamers, dimer acid based polyamide resins, polyester resins and alkyd resins

AABERLIN & EVANSON DIVISION

See T A B Engineers, Inc

A40 AARDVARK INSTRUMENT CO INC (Division of Floyd Bell Associates Inc), 1333 Chesapeake Ave, Columbus, OH 43212. (614) 486-4616
Pres & Treas: Tom L Wheeler, Jr
Field of R&D: Motor speed controls, industrial counters, electrochemical instruments

- A41 ABACUS CONTROLS INC, 93 Readington Rd, Somerville, (pf)
NJ 08876 (Mail: PO Box 893, Somerville, NJ 08876),
(201) 526-6010
Pres: George A O'Sullivan
Field of R&D: Research on deep submergence motor con-
trollers using digital control techniques, including constant
voltage transformers, ferroresonant transformers, uninterru-
ptible power supplies, alternating current supplies, frequency
converters, and direct current to alternating current inverters;
computer programming and analysis; conversion of solar cell
energy to alternating current power that is fed back into utility
lines
- A42 ABARIS CORPORATION, 2218 13th St, Olivenhain, CA (pfc)
92024. (714) 436-0061
Pres: Lewis E Massie; Sr Scientist: Dr Robert Conger; Public
Relations Officer: J Warren; Recruiting Contact: Dave Lamber;
Security Officer: L E Massie
Professional staff 21 (3 doctorates): Physics; electromagnetics;
mathematics; computer engineering; aeronautics; systems anal-
ysis; 47 technicians and auxiliaries
Field of R&D: Systems analysis; technological forecasting
- A43 ABBOTT LABORATORIES, Abbott Park, North Chicago, (pf)
IL 60064. (312) 688-6100
Chmn & Chief Exec Officer: Edward J Ledder; Pres & Chief
Operating Officer: Robert A Schoellhorn; VPRES for Corporate
Research & Experimental Therapy: Dr Ira Ringler; VPRES for
Scientific Development: Dr James M Price; Dir Media Scien-
tific Relations: T A Craig
Research and development is conducted at corporate and di-
visional levels at ten locations in the United States and in five
other countries
Professional staff over 1200, more than 1000 of whom are in-
volved in human health-care research
Field of R&D: Basic and applied pharmaceutical research in
many areas including mental illness, heart disease and high
blood pressure, arthritis, obesity and infectious disease; basic
research in molecular biology; applied research in other areas
such as diagnostics, hospital products, animal health products
and industrial chemicals
- .1 -Ross Laboratories, 625 Cleveland Ave, Columbus, OH (p)
43216. (614) 228-5281
Pres & Chief Operating Exec: David O Cox; VPRES R&D: Dr
Conrad de Fiebre; Public Relations Officer: Mary L Kimball;
Employment Mgr: Steve Warren; Librarian: Lynn Lewis; Mgr
of Technical Information Services: Hank Clemente; Safety
Officer: Erwin Heimann
Professional staff 33 (8 doctorates): Chemistry; mathematics;
dairy and food science; biochemistry; home economics;
physics; microbiology; computer sciences; statistics; 10
technicians
Field of R&D: Applied analytical chemistry; statistical analy-
sis; applied microbiology; product and grocers development in
the areas of infant formula, medical and pediatric nutritionals
- A44 ABBOTT TRANSISTOR LABS, INC,* 1224 Anderson Ave, (p)
Fort Lee, NJ 07024. (201) 224-6900
Gen Mgr: Fred Silver
Field of R&D: Standardized power supplies, including direct
current to alternating current inverters, alternating current to
direct current converters, direct current to sine wave invert-
ers, and standard and customized power transformers
- A45 ABCO LABORATORY, INC, 6660 Security Blvd, Balti- (fct)
more, MD 21207. (301) 944-8110
Pres: Dr Samuel L Goldheim
Professional staff 3 (1 doctorate): Materials science; chemistry
Field of R&D: Applied research on paper and paperboard,
converting and soft packaging; wax, plastics, adhesives; plas-
tics, including latices, sheet, film and molding resins; de-
velopment of new food products and by-products; color science;
pollution abatement; antibody labeling
- ABCOR, INC
See Koch Industries, Inc
- A46 R G ABERNETHY INDUSTRIES, INC, Suite 614, First (pft)
Center Bldg, 2000 W First St, Winston-Salem, NC 27104. (919)
722-5723
Pres: Dr R G Abernethy
- .1 -R G Abernethy Industries, Inc, Rte 1, Box 1, Creston, (pft)
NC 28615. (919) 385-7112
- Pres: Dr R G Abernethy
Field of R&D for both locations: Custom shoes, shoe boots,
leather, rubber
- ABEX CORPORATION
See IC Industries
- A47 ABRAMS AERIAL SURVEY CORPORATION,* 124 N (pfc)
Larch St, Lansing, MI 48933 (Mail: PO Box 508, Lansing, MI
48902). (517) 372-8100. Cable: ABRAMSAIR
Chmn: Talbert Abrams; Pres: Ralph E Kauffman; VPRES of
Operations: Silvano Tombelli
Professional staff 4: Photogrammetry; 30 technicians
Field of R&D: Aerial and terrestrial photogrammetry
- A48 ABRAMS INSTRUMENT COMPANY, 606 E Shiawassee St, (p)
Lansing, MI 48901. (517) 484-9441
Gen Mgr: Merlyn Gates
Field of R&D: Electronic and electromechanical timing and
counting devices, digital motors, photogrammetric instru-
mentation
- A49 ACADEMY FOR EDUCATIONAL DEVELOPMENT, INC, (f)
680 Fifth Ave, New York, NY 10019. (212) 265-3350. Cable:
ACADED
Pres: Dr Alvin C Eurich; Sr VPRES & Dir of Studies: Rexford
Moon, Jr
Professional staff 20, plus part-time consultants
Field of R&D: Studies in instructional and communications
technology; these studies often involve identifying crucial is-
sues on which research is required, evaluating the usefulness
and cost effectiveness of available hardware and software sys-
tems, and outlining the best ways of adapting new knowledge
systems to the special problems of countries caught up in rapid
social and economic change; general management studies for
various types of educational institutions
- A50 ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA,
19th & Benjamin Franklin Parkway, Philadelphia, PA 19103.
(215) 299-1000
Pres: Dr Thomas Peter Bennett
- .1 -Division of Limnology and Ecology, 19th St and the (pft)
Parkway, Philadelphia, PA 19103. (215) 299-1080
Dir: Dr Clyde E Goulden
Field of R&D: Conducts research and consulting activities re-
lated to fresh and estuarine waters, including maintenance,
diagnosis and monitoring of pollution, measurement of ability
to assimilate wastes, effects of sublethal contaminants upon
productivity, correction of water pollution, and management of
watersheds
- A51 ACADEMY RESEARCH INSTITUTE, Box 38-1494, Miami, (pc)
FL 33138. (305) 757-5596
Dir: H Tuthill
- .1 -Chemical Research Institute, Box 38-1494, Miami, FL (pc)
33138. (305) 757-5596
Field of R&D for both facilities: Product-oriented research on
foods, metals, plastics and cosmetics
- A52 ACADEMY TESTING LABORATORIES INC, 129 Verdi (fct)
St, Farmingdale, NY 11735. (516) 420-8666
Chief Operating Exec & Metallurgist: Stephen A Montanaro
Field of R&D: Applied research in metallurgy with emphasis on
non-destructive testing, welding, failure analysis and industrial
problems
- A53 ACCELERATORS, INC, 212 Industrial Blvd (Mail: PO (p)
Box 17068, Austin, TX 78760). (512) 444-3636. Telex: 77-6456
Pres & Chmn: Bernard A Peskin; VPRES of Engineering & Chief
Research Exec: Francis D Orr; Public Relations Officer: Joe
Strear
Professional staff 20 (1 doctorate): Nuclear physics; engineer-
ing; physics; 30 technicians and auxiliaries
Field of R&D: Neutron radiography; ion implantation; activation
analysis; ozone generator
- A54 ACCO (AMERICAN CHAIN & CABLE COMPANY, INC), 929
Connecticut Ave, Bridgeport, CT 06602. (203) 335-2511.
Telex: 096-4224

Pres: Joseph H. Maloney; Publications Services Mgr: Robert B Morgan

- .1 -Allison-Campbell Division, 875 Bridgeport Ave, Shelton, CT 06484. (203) 929-5301. TWX: 710-450-3540
Gen Mgr: Donald A Farmer; Mgr of R&D: Alan Van Sant
Field of R&D: Applied and product-oriented research on abrasive cut-off wheels and techniques (p)
- .2 -Bristol Division, 40 Bristol St, Waterbury, CT 06720. (203) 756-4451. Telex: 96-2417
Pres: Roy S Fine; Mgr of Group Advanced Development; Nazzareno Cedrone
Field of R&D: Applied and product-oriented research on instrumentation systems, particularly for process control, including measurement and recording of pressures, flows, pH, temperature, amperage, voltage, relative humidity and other variables (p)
- .3 -Cable Controls Division, 1022 E Michigan St, Adrian, MI 49221. (517) 263-5761. Telex: 22-3429
Gen Mgr: G Boyd Vass; Mgr of R&D: William J Gilmore
Field of R&D: Applied research on design and manufacture of cable control assemblies for automotive, aircraft, marine and specialized applications (p)
- .4 -Chain Conveyor Division, Engineering and Development Center, 12755 E Nine Mile Rd, Warren, MI 48089. (313) 755-7500. Telex: 23-5362. Cable: ACCOCHCON WARN
Gen Mgr: W Benjamin Pipp; Product Engineering Mgr: Harbans L Mediratta
Field of R&D: Research and development relating to equipment for mass manufacturing industry, principally conveyors and automation devices (p)
- .5 -Page Welding Division, 205 Clay St, Bowling Green, KY 42101. (502) 781-5560. Telex: 55-4355
Gen Mgr: Richard S Stonage; Mgr of Engineering & Product Development: Lester J O'Brien
Field of R&D: Applied research on development of welding wire analyses and welding techniques (p)

ACCO FEED DIVISION

See Anderson, Clayton & Co

ACCO SEED DIVISION

See Anderson, Clayton & Co

- A55 ACCUMETRICS CORPORATION, 344 Rindge Ave, Cambridge, MA 02140. (617) 868-1142
Pres: D H Fryklund
Field of R&D: Piezoelectric transducers for space systems, security systems, medical systems, and special applications; automation machinery; space vehicle motion analysis (f)
- A56 ACE GLASS INCORPORATED, 1430 Northwest Blvd, Vineland, NJ 08360. (609) 692-3333
Pres & Gen Mgr: Paul E Kramme, Jr; Dir of R&D: Charles M DeWoody
Professional staff 3: Chemical and electronic engineering; 2 technicians
Field of R&D: Applied research in glass and apparatus design (pc)
- A57 ACE METAL STAMPING INC* (Subsidiary of Continental Business Enterprises), 7311 Northfield Rd, Bedford, OH 44146. (216) 439-4400
Pres: G E Di Geronimo; VPres: F J Koubek; Research Dir: W Gartroza; Chief Engineer: R E Johnson
Field of R&D: Metal stampings (p)
- A58 ACETO CHEMICAL CO INC, 126-02 Northern Blvd, Flushing, NY 11368. (212) 898-2300. Telex: 6-2662.
Cable: ACETO CHEM
Chmn of the Board: Arnold J Frankel; Pres: Seymour Mann; VPres & Dir of Research: Julian Reasenberg; Gen Mgr of Development: James Dillon; Gen Mgr of Manufacturing: Robert China
Other Laboratory Facilities: Carlstadt, NJ and Long Island City, NY
Professional staff 12: Chemistry; chemical engineering; 12 technicians
Field of R&D: Research on the synthesis of organic intermediates for the pharmaceutical, dyestuffs and textile industries; formulation of chemical specialties for the rubber and paint industries (p)

- A59 ACKERBAUER LABORATORIES INC, Matthews St, Johnstown, NY 12095. (518) 762-7625
VPres, Head of Lab & Recruiting Contact: David Ackerbauer
Professional staff 1: Analytical chemistry; 2 technicians and auxiliaries (ct)
Field of R&D: Analytical chemical analyses in the area of water pollution and control, leather testing and quality control

- A60 ACKERMAN BODNAR CORP, 30 Grove Ave, New Rochelle, NY 10801. (914) 636-4664
Gen Mgr: A Franzone
Field of R&D: Research and development on displays, including indicator lights, annunciators, panels using light emitting diodes, dials, digital readout, incandescent lamps, liquid crystal units, switches and spheres (p)

ACME CHEMICALS & INSULATION COMPANY DIVISION

See Allied Products Corporation

- A61 ACME-CLEVELAND CORPORATION, 1242 E 49th St, Cleveland, OH 44114. (216) 431-4500. TWX: 810-421-8342. Telex: 98-0679. Cable: CLEFORGE
Pres: W Paul Cooper; Public Relations Officer: Harry H Leckler, Jr; Corporate Mgr, Manufacturing Process Development: R W Barrett; Asst to Gen Mgr & Administrator Corporate Capital Programs: W B Cox; Corporate Mgr, Prototype Design & Development: P Draskovic; Corporate Mgr, New Products R&D: O A Ewing; Corporate Mgr, Metallurgical Res, Development & Control: N W Marrotte; Corporate Manufacturing Electrical R&D: N R Traffis

- .1 -Acme-Cleveland Development Company, 625 Alpha Dr, Highland Heights, OH 44143. (216) 473-0300
Gen Mgr, Head of Lab & Recruiting Contact: Robert L Nekola; Librarian: Irena A Johnansonas; Mgr of Technical Information Services & Corporate Mgr of Metallurgical Research, Development & Control: N W Marrotte; Safety Officer: F A Foster
Professional staff 25 (1 doctorate): Metallurgical, electrical, mechanical and industrial engineering; physics; chemistry; 52 technicians and auxiliaries (pfct)
Field of R&D: New products in the fields of cutting tools, machine tools, foundry equipment and electrical controls; manufacturing methods and material development and testing; product testing

- A62 ACME ELECTRIC CORPORATION, 20 Water St, Cuba, NY 14727. (716) 968-2400
Pres & Treas: James W McLaughlin; VPres of Engineering: Richard Abramowicz; VPres of Industrial Relations, Recruiting Contact & Safety Officer: J T Odell; VPres of Manufacturing: Robert P McGarvey; Chief Engineer R&D: William Archer; Librarian: Diane Burt
Professional staff 25: Electrical engineering; 61 technicians and auxiliaries (pf)
Field of R&D: Applied research in the field of transformers and magnetic, electrical and electronic control equipment

- A63 ACME INC,* 9812 Washington, Chagrin Falls, OH 44022 (PO Box 209, Chagrin Falls, OH 44022). (216) 543-5177
Pres: Jim Bares; Chief Engineer: W Burke
Field of R&D: Auto air conditioner compressor and internal compressor parts (p)

ACME MOLDING COMPANY, INC

See Wind-Wonder, Inc

- A64 ACME PAPER TUBE CO,* 13325 Enterprise Ave, Cleveland, OH 44135. (216) 267-2950
Pres: Henry S Kobak; Exec VPres: D H Kobak
Field of R&D: Spirally-wound paper tubes (p)

ACME RESIN COMPANY

See CPC International Inc

- A65 ACME SOUTHERN, INC,* 4900 S Blvd, Charlotte, NC 28209 (Mail: PO Box 11264, Charlotte, NC 28209). (704) 523-1452
Pres: John V Eichorn
Field of R&D: Textiles; dyes and textile chemicals (p)

(p) research for parent company (f) contract research for others (c) consultation for others (t) testing and analysis for others