PRINTOUT

JOSEPH B. SIDOWSKI

Products

Surplus Research Items

Brain Research Instruments Company is selling the following surplus items: (a) Unused precision movements taken from a microscope stage—the left-right, worm gear portion of the microscope mechanical stage pictured in the Edmond Scientific Company catalog as No. 30058. This movement can be used as a carrier for lenses, dissecting needles, electrodes, etc., and has 50-mm excursion with verniers calibrated to 0.1 mm. Price: \$10 each. (b) Unused, IBM, well regulated 28-V dc power supplies, panel mounted for 19-in. relay racks. These have a 3-A output with a front-mounted circuit-breaker switch and room to add a meter. Price: \$98 each plus \$5 uniform postage charge.

Brain Research Instruments Company
207 Hartley Avenue
Princeton, New Jersey 08540

Point Light Source

Model UF10-10B5 is one of a series of new xenon and mercury arc illuminators consisting of lamphouse with optics, igniter, rectifier power supply, and bulbs up to 6,500 W. The output beam is adjustable from converging to diverging with extremely flat field. Optional quartz optics are also available.

Christie Electric Corporation
3410 West 67th Street
Los Angeles, California 90043

INTERACT

Lehigh Valley Electronics is marketing a new Computer Control System for use in controlling experiments in psychological, psychopharmacological, psychophysiological, and related behavioral sciences. The system, known as INTERACT, employs a small general-purpose laboratory computer (such as the NOVA or DEC PDP-8 Series, 4K machines), an INTERACT Master Control Console, and a standard ASR 33 Teletypewriter. In addition, a new language, known as ACT for Automated Contingency Translator, has been written specifically for use with the system.

The INTERACT System is advertised as being highly efficient, yet extremely simple to use. The language is written to use

simple English statements not far removed from the everyday language of the lab, while the hardware reflects a method of utilization and nomenclature commonly known and used by behavioral scientists.

The standard INTERACT System features a four-station panel to enable rather complex control from four Environment Systems or simple control from up to 12 stations. In addition, the system is expandable to permit the use of more stations or greater computer memory.

Complete information on the INTERACT System can be obtained by contacting:

Lehigh Valley Electronics, Inc.
P. O. Box 125
Fogelsville, Pennsylvania 18051
(215) 285-4211

Pressure Transducers

Pressure Transducers may be obtained from the following:

ARF Products, Inc.
Gardner Road
Raton, New Mexico 87740

BLH Electronics, Inc.
42 Fourth Avenue
Waltham, Massachusetts 02154

Bailey Meter Co.
29801 Euclid Avenue
Wickliffe, Ohio 44092

Beckman Instruments, Inc.
2500 Harbor Boulevard
Fullerton, California 92632

Bell & Howell
360 Sierra Madre Villa
Pasadena, California 91107

Biocom, Inc.
5883 Blackwelder
Culver City, California 90230

Bourns, Inc.
Instrument Division
6135 Magnolia Avenue
Riverside, California 92506

Bristol Division
America Chain & Cable Co., Inc.
Waterbury, Connecticut 06720

Bytrex, Inc.
Division of Tyco Labs
223 Crescent Street
Waltham, Massachusetts 02154

C-E Electronics
Division of Ametek
363 West Glenside Avenue
Glenside, Pennsylvania 19038

Fig. 1. INTERACT System.

Chesapeake Instrument Corporation
100 Atwell Road
Shadyside, Maryland 20867

Computer Instruments Corporation
92 Madison Avenue
Hempstead, New York 11550

Conrac Corporation
330 Madison Avenue
New York, New York 10017

Consolidated Controls
Division of ConDec
15 Durant Avenue
Bethel, Connecticut 06801

Control Products, Inc.
280 Ridgedale Avenue
East Hanover, New Jersey 07936

Datametrics
87 Beaver Street
Waltham, Massachusetts 02154

The Henry G. Dietz Co.
14-26 28th Avenue
Long Island City, New York 11102

Electronics, A Textron Co.
Box 1825
New Haven, Connecticut 06508

Endevco
Division of Beckman, Dickinson
801 South Arroyo Parkway
Pasadena, California 91105

The Foxboro Co.
Neponset Avenue
Foxboro, Massachusetts 02035

Garrett Corporation
9851 Sepulveda Boulevard
Los Angeles, California 90045

Gentran, Inc.
2961 Corwin Drive
Santa Clara, California 95051

Genisco Technology Corporation
18435 Susana Road
Compton, California 90221

Gilmore Industries, Inc.
3355 Richmond Road
Cleveland, Ohio 44122

Gulton Controls & Instruments
1644 Whittier Avenue
Costa Mesa, California 94014

Gulton Industries, Inc.
Metuchen, New Jersey 08840

Hewlett-Packard
1501 Page Mill Road
Palo Alto, California 94304

Hidyne Instru. & Engineering Co.
217 Big Springs Avenue
Tullahoma, Tennessee 37388

Honeywell Test Instruments Division
4800 East Dry Creek Road
Denver, Colorado 80217

Industrial Electronics Corporation
1363 South Patrick Drive
Satellite Beach, Florida 32935

Instrument Division
Genisco Technology Corporation
1533 26th Street
Santa Monica, California 90404

International Microwave Corporation
33 River Road
Cos Cob, Connecticut 06807

Kaman Corporation, Nuclear
Garden of Gods Road
Colorado Springs, Colorado 80907

George Kelk Limited
48 Lesmill Road
Don Mills, Ontario, Canada

Kistler Instrument Corporation
8947 Sheridan Drive
Clarence, New York 14031

Kollsman Instrument Corporation
80-08 45th Avenue
Elmhurst, New York 11373

Leeds & Northrup Co.
Sumneytown Pike
North Wales, Pennsylvania 19454

Lion Research Corporation
60 Bridge Street
Newton, Massachusetts 02158

MB Electronics
A Textron Co.
P. O. Box 1825
New Haven, Connecticut 06508

MKS Instruments, Inc.
45 Middlesex Turnpike
Burlington, Massachusetts 01803

Massa Division
Dynamics Corporation of America
280 Lincoln Street
Hingham, Massachusetts 02043

Medistor Instrument Co.
4503 8th Avenue, NW
Seattle, Washington 98107

Metrix Instrument Co.
5760 Rice Avenue
Houston, Texas 77036

Microdot, Inc.
220 Pasadena Avenue
South Pasadena, California 91030

Minnetech Labs, Inc.
6140 Wayzata Boulevard
Minneapolis, Minnesota 55416

Monrovia Instruments
Division of American Standard
1401 South Shamrock
Monrovia, California 91016

Newark Controls Co.
15 Ward Street
Bloomfield, New Jersey 07003

PCB Piezotronics, Inc.
Box 33
Cheektowaga, New York 14225

Photobell Co., Inc.
121 East 22nd Street
New York, New York 10010

Potter Aeronautical Corporation
Division of Pottermeter Co.
U.S. Route 22
Union, New Jersey 07083

Robinson-Halpern Co.
5 Union Hill Road
West Conshohocken, Pennsylvania 19428

Rosemount Engineering Co.
4900 West 78th Street
Minneapolis, Minnesota 55435

Schaevitz Engineering
U.S. Route 130 & Union Avenue
Pennsauken, New Jersey 08110

Senotec Division
Scientific Advances
1400 Holly Avenue
Columbus, Ohio 43212

Setra, Inc.
12 Huron Drive
Natick, Massachusetts 01760

Solid State Electronics Corporation
15321 Rayen Street
Sepulveda, California 91343

H. E. Sostman & Co.
347 East Lincoln Avenue
Cranford, New Jersey 07016

Sparton Southwest, Inc.
9621 Coors Road, NW
Albuquerque, New Mexico 87114

Standard Controls, Inc.
2401 South Bayview Street
Seattle, Washington 98144

Statham Instruments, Inc.
2230 Statham Boulevard
Oxnard, California 93030

Stow Laboratories, Inc.
153 Barton Road
Stow, Massachusetts 01775

Teledyne Co.
Division of Taber Instruments
455 Bryant Street
North Tonawanda, New York 14150

Texas Instruments, Inc.
P. O. Box 66027
Houston, Texas 77006

Toledo Scale Co.
5225 Telegraph Road
Toledo, Ohio 43612

Trans-Sonics, Inc.
P. O. Box 326
Lexington, Massachusetts 02173

Validyne Engineering Corporation
18819 Napa Street
Northridge, California 91324

Vari-Ohm Electronics, Inc.
65 Brightside Avenue
East Northport, New York 11731

Weksler Instruments Corporation
195 East Merrick Road
Freeport, New York 11520

Whittaker Corporation
Instrument Systems Division
9601 Canoga Avenue
Chatsworth, California 91311

Winsco Data Sensors
1533 26th Street
Santa Monica, California 90404

Light Pen

A light pen, dubbed "the Hawk," contains all electronic components inside the pen barrel. Pen response time is less than 200 msec from light input to logic output over a wide temperature range. Spectral response of the device is from 4,000 Å to 9,000 Å.

Peripheral Products Company
892 Worcester Street
Wellesley, Massachusetts 02181

Slide Projector

The XENOLITE with Carousel consists of an Eastman Kodak Ektographic slide

projector, modified and assembled on a common mounting base with a Christie XENOLITE lamphouse and power supply. It employs a Xenon-arc lamp with an average life of 2,000 h and produces up to four times the screen brightness and greatly enhanced colors over the standard Carousel projector. Typical light output is 3,000 lumens with 2 x 2 in. slides and 200 lumens with 35 mm.

An equipment option is the Lap Dissolve Control Unit that links two XENOLITE slide projectors in parallel operation to provide the effect of each slide smoothly "dissolving" into the next. In effect, it eliminates the dark screen during slide changes. Capacity is increased to 180 slides.

The XENOLITE may also be purchased with the Kodak Pageant 16-mm movie projector. The unit offers up to a five-times-brighter screen with the 900-W Xenon lamps and an advertised 1,500- to 2,000-h average bulb life.

Christie Electric Corporation
3410 West 67th Street
Los Angeles, California 90043
(213) 750-1151

Color CRT Display System

The Model 201 CRT accepts up to three input signals and displays each in a different color—red, green, and blue. The 15-in. CRT unit has plug-in amplifiers for each input channel, with sensitivity from 40 MV/cm to 40 V/cm. Horizontal deflection is provided by an external source, such as a sweep generator. A control on the time base permits sweeps of 1 msec/cm to 1 sec/cm. System prices: \$2,400-\$3,550, depending on number of channels and other plug-ins required.

Telonic Systems
P. O. Box 277
Laguna Beach, California 92652
(714) 494-9401

Telemetry Transmitter

AIM bioSciences Ltd. is marketing a new midget telemetry transmitter with a high input impedance (more than 10^{12} ohms). The transmitter was designed for studying single brain-cell action potentials and monitoring EEG at the same time.

AIM bioSciences Ltd.
Bar Hill
Cambridge, England

or

504 Miller Street
Ann Arbor, Michigan 48103

Briefs

Computer Price Reduction

Varian Data Machines has announced a price reduction of 18% for the 620/i microcomputer. The 620/i, with 4,096 16-bit words of storage, has been reduced from \$12,100 to \$9,950. The Varian 622/i, an 18-bit computer, simultaneously has been reduced in price from \$14,100 to \$11,995.

Varian Data Machines
2722 Michelson Drive
Irvine, California 92664
(714) 833-2400

Tele-endoscope

Introduced by Toshiba International Corporation, the tele-endoscope combines color TV with fiber optics to allow an inside view of an animal or human. For example, a flexible fiber scope can be passed into the patient's stomach and can transmit an image to a color TV set of a lesion or tumor as small as 2 mm.

An Electronic "Listening" Device for the Blind

The American Foundation for the Blind has produced a device capable of "speed listening" of recorded speech at rates comparable to reading. The electronic instrument makes it possible to reproduce the voice of a human at double speed without altering pitch and without producing gibberish. Taped speech is fed into the system and recorded on tapes or disks at about four times the original speed. It is then played back at half-speed to achieve the end result of double the original rate. Thirty-six bandpass filters separate the speech into its different frequency components and then 36 frequency dividers halve the frequencies of the narrow-band signals. Signals then proceed to networks that remove distortion and combine the half-frequency signals into a single output. The result is a "harmonically compressed" signal that is recorded on tape and can be used to make tape recordings of magazines for the blind. Bell Laboratories developed the principles involved in the system.

Minipigs

Miniature swine may be purchased from Vita Vet Laboratories, Marion, Indiana 46952, (317) 664-0013.

An Open-Field Modification

Most open fields consist of a boxlike chamber in which the E either observes the S directly or through mirrors; therefore,

regardless of where the E places himself, the S can see him. With an inexpensive modification, this error can be eliminated. All that is required is a translucent (illumination only) open-field floor and top. This can be achieved by covering clear Plexiglas with one layer of approximately .15-mm-thick household waxed paper (e.g., Crown Zee, Zellerbach Corporation). While the thickness of the Plexiglas top can be 1/8 in., the thickness of the floor should be 3/4 in. The shape and dimensions of the open field can be determined by the particular experimental design employed, except that the distance between the floor and top should be 12 to 20 cm. (This is based on the rat as a S. The height of the field should be 1½ to 2 times the height of the species used.)

When a S is to be tested, it is suggested that a 35-W light be placed approximately 45 cm below the open field. This produces a soft and evenly diffused light in the apparatus. In a darkened room, the E can observe from above the open field to record such behavior as grooming, locomotion, and eating responses without being seen by the S. By allowing at least two 50-sq-cm ventilation openings between the light and the apparatus, the heat produced by the light will not affect the temperature of the open field.

In addition, if the E wishes to observe the locomotor activity of Ss in a semi-darkened situation, a 5-W red light can be substituted for the 35-W lamp.

(This note was submitted for publication by Ronald Schultz, San Jose State College.)

U.S. Representative

AIM bioSciences Ltd., of Cambridge, England (manufacturers of psychological equipment), now has a representative based in the States. Mr. David Redgrave is located at 504 Miller Street, Ann Arbor, Michigan 48103.

LAB-K

LAB-K is a solid-state logic controller kit designed to control time and events in experiments. Recently introduced by Digital Equipment Corporation, the kit is made from DEC's K-series integrated circuit modules.

Designed to function without, in parallel

to, interfaced to, or as a back-up for an on-line computer, LAB-K can: (a) operate alone and record results on existing electromechanical devices, (b) hardware program a study with delayed processing of results by computer, (c) control an experiment on-line by interfacing to a computer, and (d) act as a computer back-up.

LAB-K allows the researcher to control manually early experiments until the software is developed. When software development has been completed, control of experiments can be turned over to the computer.

The basic kit includes a 200-pin programming plugboard, input logic, a sequence controller, groupings of BCD counters, six time-base generators, output logic for either ac or dc current, and a 7-A, 5-V power supply. Basic kit: \$2,600.

Digital Equipment Corporation
Maynard, Massachusetts 01754

Scotch Brand Conductive Tapes

The 3M Company recently added two new tapes to their electrical tape line. The tapes are X-1181, a copper foil-backed tape, and X-1170, an aluminum foil-backed tape. Both employ a new electrically conductive pressure-sensitive adhesive that allows the tapes to be three-dimensionally conductive. Each tape is supplied with a liner to permit cutting to shape or size without seriously wrinkling the foil backing. Conductivity of the special adhesive is not impaired after heat aging at 130°C. Current-carrying capacity of a 1-in. segment of both types is approximately 3 ohms/sq in. for either tape.

I have employed both tapes under various lab conditions, including use as conductors attached to monkey cages for purposes of activating a sensitive relay circuit. The tapes adhered and conducted satisfactorily.

An 18-yd roll of ¼-in. tape is \$2.70, 3/8-in. tape is \$4.05, ½-in. is \$5.40, and 1-in. is \$10.80.

Computer Tape System

The C0600 LINC system offers users of the Varian Data 620/i computer a versatile random-address, mass-storage device. The system includes a dual tape drive assembly

and its controller; software is also provided. The tape stores 102,400 16- or 18-bit words so that 204,800 words are available without reel changing. Data transfer rate is 4.2 kHz and data is addressable in 256 word blocks. The system is sold by Computer Operations, Inc. of Silver Spring, Maryland.

Computer Network

The Advanced Projects Agency of the Department of Defense has issued plans to link computers of different makes into one national network. By 1971, the computer power of 14 different research centers will be pooled. All centers, or nodes, will be equipped with an interface message processor being developed by Bolt Beranek and Newman.

Message processors, called IMPs, will compensate for the varying word lengths in binary messages of different computers by filling out the bit strings. The IMPs are modified Honeywell 516 computers which will also translate all character codes used by a computer to ASCII before sending messages. At the receiving end, the processor will translate back from ASCII to the computer code of that installation, if necessary. Involved university computers include the SDS Sigma 7, SDS 940, IBM 360/50, PDP-10, PDP-6, GE 645, ILLIAC IV, and the MIT Lincoln Lab TX-2.

Semiconductors

The Motorola Semiconductor Data Book, 4th edition, is now available from distributors or from the Technical Information Center, Motorola Semiconductor Products, Inc., Box 20924, Phoenix, Arizona 85026. Cost: \$4.95 a copy.

The book contains 2,160 pages of specifications for all discrete semiconductors registered by EIA, and many house-numbered types. A 185-page section contains numerical listings of important parameters of all semiconductors registered by EIA, 1N-, 2N-, or 3N- prefixes. Information is provided for identifying any registered device. Recommended replacements are cited for obsolete, nonpreferred, or hard-to-obtain devices.