PRINTOUT

JOSEPH B. SIDOWSKI

Products

Surplus Equipment Available

Separate sealed bids are invited for two Hunter Model 145 printout counters. Each is a high-speed counter and records counts on paper tape, using pressure-sensitive paper roll. Each counter has two four-digit counter heads, which can be operated completely independently from the other. Original cost of these counters is in excess of \$600 each. They are in excellent condition. Each counter will be shipped with 10 rolls of pressure-sensitive paper.

Sealed bids will be accepted until 2 p.m., Wednesday, February 28, 1973, in the Office of the Purchasing Agent, New College, at which time they will be publicly opened. Please indicate "sealed bid" and date to be opened on the envelope.

New College reserves the right to reject any and all bids for any reason whatsoever.

New College
Charles C. Harra, Business Manager
5350 North Tamiami Trail
Sarasota, Fla. 33578

Electronic Coin-Tosser Kit

The electronic coin tosser uses the Fairchild UL 923 (IC). Only one of the lamps is always on. When you press the button, the circuit oscillates hundreds of times a second; one lamp lights when you release the button. The kit includes seven resistors, one capacitor, two transistors, one UJT transistor, one UL 923 IC, two lamps, one battery clip, one perf. board, and colored wires. Kit No. KC38 is priced at \$3.25.

Other kits are available also, including an accurate interval timer kit (\$3.25) and a diode switch kit at \$1.35.

Cortlandt Electronics, Inc.
16 Hudson St.
New York, N.Y. 10013

Panel Display

The BR08751 PANAPLEX 11 panel display contains eight digits of display with 0.7-in. characters that can be viewed from 35 ft. Twenty-four connections are required to address the eight character positions and decimal point.

Burroughs Electronic Components Div.
Box 1226
Plainfield, N.J. 08861

PDP-8 Interface

The DL8-E interface reduces the cost of PDP-8 multi-Teletype control. The unit can be interfaced to either RS232C modems or directly to Teletypes, uses the same microcodes as DEC's KL8-E and KL8-EA through EG; it plugs into an omnibus connector. Up to 32 serial channels may be interfaced by using one DL8-E per channel. The DL8-E may be used in place of KL8 modules or DEC's DC02-8 channel multi-Teletype control. Price: \$175.

Digital Lab
377 Putman Ave.
Cambridge, Mass. 02139

Sound Monitors

The SPL-101 and 101W series sound monitors are merely mounted on a wall or bench and plugged into a 110-V outlet. Cumulative noise exposure is automatically summed. A four-digit readout indicates when the permissible limit is reached. Price: \$395.

Columbia Research Labs, Inc.
MacDade Blvd. & Bullens Lane
Woodlyn, Pa. 19094

CRT Display with Hard-Copy Compatibility

The 613 storage display is a bright low-cost large-screen data-storage and display unit. A newly designed 11-in. storage CRT provides a bright trace for viewing high-density alphanumeric and graphic displays in high ambient light conditions. The storage display provides high information density without flicker. Permanent hard copies of the displayed information are available by using the compatible 4610 hard-copy unit, which provides full screen copies in 18 sec.

Tektronix, Inc.
P.O. Box 500
Beaverton, Oreg. 97005

Shaft Encoder

The Series 880 optical encoder measures 2 in. in diam and may be specified with pulse rates as high as 2,500/revolution and with sine- and square-wave output. Accuracy: ± 2.5 min of arc. The user may select a number of options, including light sources, indexing, output, and shaft size. The standard uses incandescent lamps for light sources, but LED sources may be specified. Phototransistors are used for sensing; indexing

is available to provide a constant reference for every revolution of the encoder disk. Priced: from \$150.

Disc Instruments, Inc.
2701 S. Halladay St.
Santa Ana, Calif. 92705

Matrix Board

The Series 65000 miniature program board packs 400 programming positions into an area of $2\frac{1}{2} \times 2\frac{1}{2}$ in. With programming holes on 0.1-in. centers, the board is reduced 50% in size and weight over standard matrices. Contact configuration is based on both decks. The board uses shorting or component holder pins that are inserted into the program holes at selected points. Cost: \$0.07 per cross point.

Co-Ord Switch
102-48 43rd Ave.
Corona, N.Y. 11368

Instant Photomicrographs

The Polaroid Land instrument camera Model ED-10 can be used with almost all microscopes and with any other optical instrument, employing a suitable eyepiece to produce color photomicrographs in 60 sec and black and white in 15 sec. The camera has no lens and employs the optics of the user's microscope. The ED-10 kit has a suggested list price of \$70.

Digital Column Printer

The Model 318 is a low-speed (three lines per second, 6 to 18 columns) digital column printer that uses a standard format of 10 char/linear inch and 6 lines/vertical inch. TTL throughout, the printer features zero suppression, buffered memory, and serial or parallel input. Price: \$595.

Datadyne Corp.
Bldg. 37A
Valley Forge Center
King of Prussia, Pa. 19406

Counter/Printer

The Series 7619 counter and printer, when mechanically driven by a servo drive input, can convert analog voltages to a digital display and printout. With a stepper-motor drive, the counter can be used as an electrical printing totalizer. It requires a torque of 0.5 oz-in. max. A built-in mechanism advances the unit wheel to the next full figure prior to print and returns the wheel to the original position after print. Detent fingers lock all wheels during printing.

Veeder-Root
700 Sargeant St.
Hartford, Conn. 06102

Miniature dc Motor

The Escap 26PL miniature dc motor has a diameter of 1.024 in. and a length of 1.634 in. Torque is up to 3.5 oz in.; speed up to 70 rpm; mechanical time constant, 19.6×10^{-3} sec.

Portescap U.S.
730 Fifth Ave.
New York, N.Y. 10019

Miniature Audio Indicator

This miniature solid state audio indicator weighs $\frac{1}{4}$ oz and measures .88 x .61 x .39 in. Sound output is 400 Hz, 80-dB volume. The unit can operate from hearing-aid batteries. Two models: 1.5-3 V dc and 12 V dc. Evaluation samples are available for a \$4.50 handling charge if check or money order is enclosed. If invoiced against a purchase order, the cost is \$5.95.

Projects Unlimited
3680 Wyse Rd.
Dayton, Ohio 45414

Reed Relay

A new Babcock reed relay is available free for your evaluation. The 10-W dry-reed and 50-W mercury-wetted series is offered in 0.100- and 0.150-in. terminal spacings, in Forms A, B, and C and combinations (open and covered versions). The relay features gold-plated terminals, glass-reinforced bobbin, and stand-off pads to facilitate cleaning. For free sample and technical details contact:

Babcock Electronics Corp.
3501 N. Harbor Blvd.
Costa Mesa, Calif. 92626

New Minicomputer

The ee 200 features a universal bus with space for 12 memory and/or peripheral devices in the basic unit, DMA, priority interrupts, bipolar or core memory, 69 basic instructions that are both 8-bit byte and 16-bit oriented, 4k bytes of core memory standard, 16 levels of 16 GP registers, a bootstrap loader and serial Teletype interface, and a stack pointer for fully recursive programming. Price is \$1,915 with 4k bytes of core, \$2,600 for 8k bytes.

Eldorado Electrodex Corp.
601 Chalomar Rd.
Concord, Calif. 94518

Disk Pack System

Disk pack system for minis stores up to 44 M bits and is composed of a disk controller and 1-8 disk drives. The controller is an automatic transfer, block-oriented device. Read, write, and select routines provide the software required to put this system on-line, while a

diagnostic program verifies correct operation or notifies the user of malfunction. Per Data's disk system is available for any of the computers in use today, mini or maxi.

Per Data
102 New South Rd.
Hicksville, N.Y. 11801

Astro-Med Recorder

The Astro-Med Super 8 is a complete 8-channel recorder, including precision high-speed galvanometer (dc to 150 Hz), amplifiers, power supplies, and multispeed drive. It offers full 50-mm-wide channels and weighs only 57 lb. The instrument has a basic sensitivity of 10 mV/mm. Input impedance is 100 k ohms, and the input circuit is open-ended and floating. Price: \$3,388.

Astro-Med
Atlan Industrial Park
West Warwick, R.I. 02893

Instant Resistors

Instant Ohm is ideal for making resistors, shunts, or multipliers, for repair, reproduction, and experimental use on the spot for about 2 cents each. Each kit contains wires ranging from 0.5 to 300 ohms/ft, 11 epoxy bobbins, instructions, and simple schematics. Kit price: \$12.95.

Chronomite Labs
21011 S. Figueroa St.
Los Angeles, Calif. 90047

Inexpensive Three-Digit Panel Meter

Analogic's AN2530 and AN2330 three-digit DPMs signals a frontal assault on the analog meter. Although the 2530 requires its own 5-V power, it is easy to read and resolution is good. The 2530 can scale any input to arbitrary readout units. External shunts and attenuators can be used, and jumper connections to the counter circuit terminals can provide least-count resolution of 1, 2, 5, or 10 units. Price: \$75.

Analogic
Audubon Rd.
Wakefield, Mass. 01880

Paper-Tape Reader

The Model 2015 asynchronous perforated tape reader (Digitronics Corp., Southboro, Mass.) operates in bidirectional read modes at synchronous speeds up to 150 cps. The unit reads all commercially available type (opaque or translucent), 5- to 8-level, and has only one moving part for long service life. Two models are available: a 3½ x 19 in. panel or a 5¼ x 9½ in. panel. Each is available as a bidirectional reader and as a unidirectional TTY tape reader.

The Addmaster Corp. (San Gabriel, Calif.) 601 paper-tape reader is a photoelectric solid state device which operates with one moving part. It operates asynchronously at 10, 15, 30, and up to 120 char/sec with 5-, 6-, 7-, or 8-level tape in standard width, fanfold, or on reels. It stops on character and automatically detects end of tape or taut tape. The unit is in the price range of mechanical readers and is small and lightweight.

Cassette Recorder

Sycor's Model 135 cassette recorder includes control and phase encoding electronics, a read-after-write head, and a 12.5-ips read/write speed with a transfer rate of 10,000 bits/sec.

Sycor, Inc.
100 Phoenix Dr.
Ann Arbor, Mich. 48104

Color Display

Alphanumeric and graphic data may be displayed on the TCR-25. RGB input makes for relatively simple interface. Controlled phosphor CRTs or Hi-Lite matrices are available, depending on ambient light and applications. Other color monitor sizes include TCR-14, 14 in., and TCR-19, 19 in., models.

Miratel Div.
Ball Brothers Research Corp.
1633 Terrace Dr.
St. Paul, Minn. 55113

Breadboard for DEC Machines

The Model 10-DE77 board has double-sided 36 contact connector fingers and accepts 18 of the 14- or 16-pin DIPs. Etched in 2-oz copper on flame-retardant glass epoxy, the finish is 0.00002-in. gold. All holes are plated-through No. 62 drill (0.038). Price: \$9.

Douglas Electronics
718 Marina Blvd.
San Leandro, Calif. 94577

dc Servo Motors

The Ametek permanent magnet dc servo motors have straight-line speed/torque curve and are available in 3.3- and 4.0-in. diam. The units can be supplied with standard armature windings, several mounting arrangements, and innumerable shaft configurations. Torque to 1,500; speeds to 5,800 rpm.

Ametek/Lamp Electric
Kent, Ohio 44240

Add-On Memories

MiniCage and VertiCage enable users of PDP-11 and Varian 620 computers to expand memories. MiniCage stores up to 24 k of 16-bit words; VertiCage has a

maximum capacity of 64 k 16-bit words. Both have internal power. Prices are advertised as from 20% to 40% under the list prices of expansion memory offered by the respective computer manufacturers.

Cambridge Memories
285 Newtonville Ave.
Newton, Mass. 02160

Time-Delay Relays

Companies marketing time-delay relays are cited below.

Adams and Westlake Co.
1025 N. Michigan St.
Elkhart, Ind. 46514

Agastat Div.
Amerace Esna Corp.
1027 Newark Ave.
Elizabeth, N.J. 07208

Airpax
P.O. Box 8488
Fort Lauderdale, Fla. 33310

Aladdin Controls
701 Murfreesboro Rd.
Nashville, Tenn. 37210

Allied Control Co., Inc.
100 Relay Rd.
Plantsville, Conn. 06479

American Relays Electronics Div.
39 Lisperard St.
New York, N.Y. 10013

American Zettler, Inc.
697 Randolph Ave.
Costa Mesa, Calif. 92626

Amperite Co., Inc.
600 Palisade Ave.
Union City, N.J. 07087

Amtron, Inc.
14820 S. Kedzie
Midlothian, Ill. 60445

Artisan Electronics Corp.
5 Eastmans Rd.
Parsippany, N.J. 07054

Automatic Switch Co.
50-56 Hanover Rd.
Florham Park, N.J. 07932

Automatic Timing & Controls, Inc.
201 S. Gulph Rd.
King of Prussia, Pa. 19406

Bayside Timers, Inc.
4369 162nd St.
Flushing, N.Y. 11358

Betamite Electronic Devices
6321 W. Slauson Ave.
Culver City, Calif. 90230

Bourns, Inc.
Instrument Div.
6135 Magnolia Ave.
Bakerside, Calif. 92507

Branson Corp.
Vanderhoof Ave.
Denville, N.J. 07834

Bulova Watch Electronics Div.
6120 Woodside Ave.
Woodside, N.Y. 11377

California Electronic Manufacturing Co.
P.O. Box 555
Alamo, Calif. 94507

Clare, C. P. & Co.
3101 W. Pratt Ave.
Chicago, Ill. 60645

Cook Electric
6201 W. Oakton
Morton Grove, Ill. 60053

Cornell-Dubilier Electronics
150 Ave. L
Newark, N.J. 07101

Cramer Div.
Conrac Corp.
Mill Rock Rd.
Old Saybrook, Conn. 06475

Curtis Instruments, Inc.
200 Kisco Ave.
Mount Kisco, N.Y. 10549

Cutler-Hammer, Inc.
4201 N. 27th St.
Milwaukee, Wis. 52316

Digital Instruments, Inc.
19025 Parthenia
Northridge, Calif. 91324

Diversified Electronics, Inc.
1913 W. Maryland St.
Evansville, Ind. 47712

Durakool, Inc.
1010 N. Main St.
Elkhart, Ind. 46514

E-T-A Products Co. of America
6284 N. Cicero Ave.
Chicago, Ill. 60646

Eagle Signal, Gulf & Western Systems Co.
736 Federal
Davenport, Iowa 52803

Electronic Specialty Div.
Datron Systems, Inc.
18900 N.E. Sandy Blvd.
Portland, Oreg. 97220

Essex International, Inc.
Controls Div.
Logansport, Ind. 46947

Frederick Controls Div.
North American Philips Corp.
E. Church & Second Sts.
Frederick, Md. 21701

Frost Controls Corp.
26 Pearl St.
Bellingham, Mass. 02019

Furnas Electric Co.
1000 McKee St.
Batavia, Ill. 60570

G.E. General Purpose Control Dept.
Rt. 66 and G.E. Rd.
Bloomington, Ill. 61701

G.E.-Waynesboro
Waynesboro, Va. 22980

GTE Automatic Electric
400 N. Wolfe Rd.
Northlake, Ill. 60614

G-V Controls
Div. of Sola Basic
101 Okner Pkwy.
Livingston, N.J. 07039

General Automatic Corp.
235 W. First St.
Bayonne, N.J. 07002

General Time Corp.
A Talley Industries Co.
Industrial Controls Div.
135 S. Main St.
Thomaston, Conn. 06787

General Time-Space & Systems Div.
1200 Hicks Rd.
Rolling Meadows, Ill. 60008

Guardian Electric Mfg. Co.
1550 W. Carroll Ave.
Chicago, Ill. 60607

Haydon, A. W. Div.
North American Philips
232 N. Elm St.
Waterbury, Conn. 06720

Haydon Switch & Instruments, Inc.
1500 Meriden Rd.
Waterbury, Conn. 06720

Heinemann Electric Co.
Route 1, Brunswick Pike
Trenton, N.J. 08638

Hi-G, Inc.
Spring St. and Rt. 75
Windsor Locks, Conn. 06096

Hoagland Instrument Co.
65 Chestnut St.
Red Bank, N.J. 07701

Industrial Solid State Controls
435 W. Philadelphia St.
York, Pa. 17405

Industrial Timer Div.
Esterline Corp.
U.S. Hwy. 287
Parsippany, N.J. 07054

Ingraham Industries Comar Div.
3349 W. Addison St.
Chicago, Ill. 60618

Jeffron Products, Inc.
P.O. Box 7
56 Route 10
Hanover, N.J. 07936

Leach Corp.
Relay Div.
5915 Avalon Blvd.
Los Angeles, Calif. 90003

Logitek, Inc.
42 Central Dr.
Farmingdale, N.Y. 11735

MKC Electronics Corp.
454 E. Donovan Rd.
Kansas City, Kans. 66115

Magnecraft Electric Co.
5575 N. Lynch, Chicago, Ill. 60630

Micro Switch
Div. of Honeywell
11 W. Spring St.
Freeport, Ill. 61032

Midtex, Inc.
Aemco Div.
10 State St.
Mankato, Minn. 56001

Naybor Electronics, Inc.
26 Manorhaven Blvd.
Port Washington, N.Y. 11050

OPTO Mechanisms, Inc.
40 Skyline Dr.
Plainview, N.Y. 11803

Ohmite Mfg. Co.
3601 Howard St.
Skokie, Ill. 60076

Omnetics, Inc.
P.O. Box 113
Syracuse, N.Y. 13211

Paragon Electric Co., Inc.
1600 12th St.
Two Rivers, Wis. 54241

Parko Electronics Co., Inc.
1540 S. Lyon
Santa Ana, Calif. 92702

Philadelphia Scientific Controls
1135 Cedar Ave.
Croydon, Pa. 19020

Potter & Brumfield
Div. of AMF, Inc.
1200 E. Broadway
Princeton, Ind. 47670

Raymond Precision Industries, Inc.
217 Smith St.
Middletown, Conn. 06457

Regent Controls, Inc.
Harvard Ave.
Stamford, Conn. 06902

Relay Specialties, Inc.
3 Godwin Ave.
Fair Lawn, N.J. 07410

Sensor Corp.
97 Indian Field Rd.
Greenwich, Conn. 06830

Sigma Instruments, Inc.
170 Pearl St.
Braintree, Mass. 02185

Signetics
811 E. Arques Ave.
Sunnyvale, Calif. 94086

Solid State Electronics Corp.
15321 Rayen St.
Sepulveda, Calif. 91343

Square D Co.
Executive Plaza
Park Ridge, Ill. 60068

Standard Relay Corp.
40 Dale St.
W. Babylon, L.I., N.Y. 11704

Struthers-Dunn, Inc.,
Lambs Rd.
Pitman, N.J. 08071

Symbolic Displays, Inc.
1762 McGaw Ave.
Irvine, Calif. 92708

Technology Products, Inc.
8944 Mason Ave.
Canoga Park, Calif. 91306

Tempo Instrument, Inc.
E. Bethpage Rd.
Plainview, N.Y. 11803

Tenor Co.
P.O. Box 2766
Milwaukee, Wis. 53219

Texas Instruments
Control Products Div.
34 Forest St.
Attleboro, Mass. 02703

Thermal Controls
2711 Freemansburg Ave.
Easton, Pa. 18042

Timeco, Inc.
1035 26th St.
Box 8036
Huntington, W. Va. 25705

Universal Relay Corp.
42 White St.
New York, N.Y. 10013

Vanguard Relay Corp.
225 Cortland St.
Lindenhurst, N.Y. 11757

Ward Leonard Electric Co., Inc.
31 South St.
Mount Vernon, N.Y. 10552

Zenith Controls, Inc.
830 W. 40th St.
Chicago, Ill. 60809

BRIEFS

On-Line Computer Conference

The Second National Conference on the Uses of On-Line Computers in Psychology was held at St. Louis University, St. Louis, Mo., on November 1, 1972, under the directorship of Donald Tepas. The entire proceedings of the conference (invited addresses, contributed papers, and symposia) will be published in the next issue of this Journal.

The Conference Steering Committee made several decisions and recommendations concerning future meetings and formalization of the group.

Specific information concerning the results of the conference business meeting will be printed along with the Proceedings in the March 1973 issue of *Behavior Research Methods and Instrumentation*.

Psychopharmacology

The *International Directory of Investigators in Psychopharmacology* was published in the fall of 1972, and a number of copies are available to those who have a special need for the information. This unique resource for information on "who is doing what and where in psychopharmacology" on the international level is a project of the International Reference Centers Network for Information on Psychotropic Drugs, a WHO-NIMH collaborative effort.

Address requests to the Editor, Alice A. Leeds, M.D., Chief, International Reference Center for Information on Psychotropic Drugs, NIMH, Room 9-105, 5600 Fishers Lane, Rockville, Md. 20852.

Electronic Seeing Aid

A miniature transmitter and receiver mounted in a pair of eyeglass frames form the basis of a new electronic seeing aid. In operation, the E-2 emits a pulse of infrared light. If an object is in front of the wearer, the light is reflected back to a receiver in the eyeglass frame, which emits a tone warning the wearer of the obstruction. Developed by the Electro-Optics Div., Sensory Aids Research Co., Albuquerque, N. Mex., the Model E-2 seeing aid can be adjusted to detect a good reflector (e.g., a white plaster wall) to a range of about 3-4 m. A poor reflector, certain fabrics and paints, almost always can be detected at a minimum range of 1.5 m, or a few steps away. The unit is priced at \$250.

Sphygmometrograph

Sears Roebuck & Co. and the Inventure Development Co., Auburndale, Mass., have developed a device which enables a person to take his own blood pressure while eliminating human error. The device records the blood pressure reading on inkless paper with an accuracy said to be equal to that conventionally obtained by physicians. Sensing and discrimination of the Korotkoff arterial sounds is carried out electronically. A new cuff design permits the user to put it on his own arm in a clinically correct manner. Price: \$199.50.

Minicomputers

Interdata has announced a new schedule of peripheral pricing. The cost of a typical 24 kB system has been reduced by about 10%.

Digital Equipment Corporation has added the PDP-11/40 to its 16-bit PDP-11 line. The 11/40 is almost twice as fast as the 11/20 but lower in price.

Digital Computer Controls dropped prices on its D-112 series of 12-bit computers by as much as \$2,060 for a minimum decrease of 15% across the product line.

Optical Filters

The Thin Film Products Division of Infrared Industries announces a new 32-page Design Guide and Catalog of Optical Filters. The reference includes specifications, procurement, and use of interference filters. Write to Thin Film Products Div., IR Industries, P.O. Box 557, Waltham, Mass. 02154.

Calculator TV

The Panasonic Calculator TV is a 14-digit desk-top device for the four standard functions (add, subtract, multiply, and divide) plus square, square root exponentiation, and memory. Big feature is readout. Through a character generator/adaptor, the unit can be attached to the antenna of a home color TV receiver, and the content of the memory file is displayed on the TV screen in yellow. The calculation is displayed in green (up to four lines), and overflow is indicated in red. Any savings in cost of standard LED or gas-discharge readouts is offset by the character generator, but the constant display of memory is an advantage and it has