

PRINTOUT

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PRODUCTS

The 93 Series single-plane alphanumeric display features high brightness and a black background and can be viewed in direct sunlight. For night viewing, the light output is uniform at low brightness. Characters are .4 in. high. One to six digit modules are available.

Aerospace Optics, Inc.
7112 Burns St.
Fort Worth, Tex 76118

Lapel Speaker

The Uni-Mike SM-3 is a lapel speaker with various pocket clip or tab arrangements for attachments to clothing.

Unex Laboratories, Inc.
321 Newbury St.
Hawthorne, Mass. 01937

Latching Relay

ITI's latching reed relay can operate at 300 microsec. The small unit has a pulse-operated orthogonal design, nonpolarized, and it is immune to transients.

Information Transfer, Inc.
P. O. Box 357
Holcomb, N. Y. 14469

Wide Band Transformers

Wide band transformers are marketed by Mini-Circuits at about \$3-4 each: 1-500 MHz 50-ohm impedance, 1:1-16:1 impedance ratio, and a micro-miniature case. Impedance ratios of standard models are 1:1, 2:1, 4:1, 9:1, and 16:1. MCL Kit TK-1 includes two units of each type and sells for \$32.

Mini-Circuits Laboratory
2913 Quentin Rd.
Brooklyn, N. Y. 11229

Clock Timers and Pulse Generators for ICs

Clock timers and pulse generators for integrated circuits are available in packages slightly larger than standard paper clips.

Connor-Winfield Corp.
West Chicago, Ill. 60185

Small Plotter

The Zeta Model 1200 is a 12-in. incremental plotter with operating speeds of up to 3000 increments per second at 2.5 mils (1500 at 5.0). The Model 1200 delivers 7.5 in./sec (10.5 diagonal), and it is advertised as compatible with existing software and interfaces.

Zeta Research, Inc.
.1043 Stuart St.
Lafayette, Calif. 94549

Minicomputer Plotting Software

Universal Versaplot software is a new plotting software system written in Fortran for virtually any minicomputer. A typical system 1,000 LPM printer, 100 points/in. plotter with minicomputer interface and Versaplot software sells for \$10,000. Other systems cost more.

Versatec, Inc.
10100 Budd Rd.
Cupertino, Calif. 95014

Tuning Fork

A low price piezoelectric tuning fork is being sold by Iwata Electric Co., Ltd., Mansei Bldg., Rm. 36 1-16, 1-Chome Soto-Kanda, Chiyoda-ku, Tokyo 101, Japan.

Computer Pen

The Alphabet-70 utilizes a special ballpoint pen and circuitry that translates handprinted data into computer language as it is being entered into a data-processing system. The pen eliminates keyboard-based procedures in data entry and shows promise for expediting field-data collection.

XEBEC Systems, Inc.
566 San Xavier Ave.
Sunnyvale, Calif. 94086

Miniature Recorder

The Rustrak 4300 is a 3-channel miniature recorder that accepts 100 plug-in preamps and records ac and dc volts, amps, temperature and various process control functions. Sensitivity is 100 mV full scale; the response is 2-sec full scale deflection. Size: 5-5/8 x 11 in. Price: \$975.

Recorder Systems Division
 Gulton Industries
 Gulton Industrial Pk.
 East Greenwich, R. I. 02818

NOVA Input/Output Bus

The RTP7410/60 I/O bus converter plugs into any unused I/O slot in the NOVA. This converter allows the complete RTP family of interface equipment to operate under the control of any NOVA. Up to 8 controllers can be connected to one converter in chain fashion. Converter with termination card is priced at \$900.

Computer Products, Inc.
 1400 N. W. 70th St.
 Ft. Lauderdale, Fl. 33309

MAP Peripheral

The CPS programmable macro arithmetic processors allow complex mathematical operations in real time while simultaneously acquiring data. A 1204 point complex FFT in 32-bit floating point can be performed in 3.5 msec. Price: approximately \$5000.

CPS, Inc.
 209 Middlesex Turnpike
 Burlington, Me. 01803

Thin Capacitors for PC Boards

These thin polyester capacitors have radial leads and are available from .001 to .22 microfarads in 50- and 100-V ratings. The dipped epoxy coating is impervious to all cleaning compounds.

Shephard Components
 16152 Covello St.
 Van Nuys, Calif. 91406

PM Motor

The 6-V A1710, 1 three pole permanent magnet dc motor has an output speed of 11,000 rpm $\pm 10\%$ at .32 oz/in. load. Current input is 350 mA at no load and 1.2 A at .32 oz/in. Starting torque is .72 oz/in. The motor measures 1.15 x .60 x .89 in.

North American Phillips Control Corp.
 Cheshire Industrial Pk.
 Cheshire, Conn. 06410

Piezo Transducers

The Series INP-50 Piezoelectric Sensors are self-amplifying and require no auxiliary signal-conditioning electronics for dynamic pressure measurements. Various configurations are available.

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

Interface Mini with Selectric

A plug-in interface makes an IBM Selectric and I/O device for any NOVA computer. The unit provides 15 char/sec I/O speed, red ribbon shift, and use of lower/upper case character set. Interface card has its own power supply and occupies a single slot in any NOVA CPU chassis. Complete package including cables and diagnostic program is \$1375.

Information Laboratories, Inc.
 Box 15451
 Charlotte, N. C. 28210

I/O Board for NOVAS

The MDB general purpose input/output interface board is said to contain all necessary circuitry to connect the user's logic to the I/O bus of any NOVA or DCC-16 minicomputer.

The I/O logic board has provision for up to 105 14- and/or 16-pin wire wrap sockets with allowances for 24- to 40-pin sockets. User logic is connected to the I/O logic by wire wrap posts dividing the two sections. The interface is on a 15 x 15 in. board with 100-pin connectors and can be mounted directly in a single slot of the computer chassis. Price of the basic board is \$385.

MDB Systems, Inc.
 Orange, Calif. 92667

Microelectronic Tone Generators

KA Electronic Sales is stocking the MH8900 Series dual frequency microelectronic tone generators from Microsystems International. Price is \$18 each. CHOMERICS keyboards in calculator and touch-tone formats are also stocked and priced from \$7.15 to \$11.15 each.

KA Electronic Sales
 1220 Majesty Drive
 Dallas, Tex. 75247

Modular Power Supplies

L-TRON is introducing a complete series of single, dual, and triple output modular power supplies for op amp and digital applications. Model LTP-2.15.350 features dual ± 15 V at ± 350 mA output with .02% line and load regulation; ripple noise .5 mV RMS; input voltage 105 to 125 V ac (50-400 Hz), and short circuit protection. Package size is 2.5 x 3.5 x 1.62 in. Price: \$105.

L-TRON
 10604 Warwick Ave.
 Fairfax, Va. 22030

Logic Box

LVD Corp. recently developed the "Logic Box," a compact, lightweight (less than 15 lb), portable logic

system. It may be programmed for all basic schedules plus random schedules and avoidance escape. Prices start at \$995. Features of the device include: 4 optically isolated input shapers; 6 three-input and gates; 3 three-input OR gates; 3 logic inverters; 4 "D" binaries (flip flops); 2 one shots (pulse formers); 1 ten position stepper; 4 precision time bases (1 msec, 10 msec, 100 msec, and 1.0 sec); 1 probability gate; 1 adjustable time base; 2 interval timers (10 msec to 9990 sec); 2 three ampere power drivers, 5-50 V; 6 of the 1/2 ampere power drivers; and two 3 digit LED counter displays. Indicator lamps are on almost all logic functions.

William T. Jones
LVD Corporation
Box 2221
Lehigh Valley, Pa. 18001

Digital Period Discriminator

The Digital Period Discriminator is designed for physiological and biofeedback applications. The filter has the following specifications. Resolution: 100 microsec. Range (at 100 microsec resolution): 1-sec period to 10 KHz. (Range at 1000 microsec): 10-sec period to 1 KHz. Attenuation (+100 microsec out of band): Infinite. Precision: 15 parts per million. Amplitude dependence: none. Amplitude range: 0-30 V. Amplitude selection: 0-10 V. Response time-pickup: 1 cy in band. Response time dropout 1 cy out of band.

Coulbourn Instruments, Inc.
Box 2551
Lehigh Valley, Pa. 18100

Pocket-Size Multimeter

The Model 245 multimeter is 5-1/2 in. wide and 1-3/4 in. high and sells for \$295. The miniature 4-1/2 digit multimeter has .0005% resolution, and it is battery and line operated for measuring dc V, ac V, dc current, ac current and resistance.

Data Precision Corp.
Audubon Rd.
Wakefield, Me. 01880

Alphanumeric Message Printer

Sidewriter Model PR1021 prints characters sideways with capacity for up to N (e.g., 80) columns by 26-line messages at throughput of 100 chars/sec. The high speed alphanumeric units is suited for use with 80-col CRT display terminals, communications printers, instrumentation, or computer terminals. Price: \$287.

Elec-Trol, Inc.
26477 N. Golden Valley Rd.
Saugus, Calif. 91530

Paper Tape Reader

The 30A reader uses starwheel sensing with 12-, 24-, and 48-V inputs at 15 W. Recommended drive pulse is approximately 18 msec. When a diode-Zener series is used across the drive coil for suppression, release time is 15 msec; with simple diode suppression it is 25 msec. The 0 to 30 char/sec speed can be increased to 35 to 40 chars/sec if the unit is driven through an interrupter.

Electro-Mechanisms, Inc.
P. O. Box 371
Wayne, N. J. 07470

Sound Level Meter

A sound level meter and calibrator kit is offered by Quest Electronics of Oconomowoc, Wisconsin. The kit consists of the 211FS sound level meter, the CA-12 sound level calibrator, an adaptor for calibrating instruments with 1-in. microphones, and two 9-V batteries. Calibrator frequency is 1-KHz $\pm 3\%$. Sound pressure level is 110 dB, reference .0002 dynes/cm².

Zeners

An assortment of Zeners is available for \$24.50 from Schauer Mfg. Corp. The kit contains a 51-piece assortment of 1% tolerance 1-W Zeners covering the voltage range of 2.7 to 16.0. Three diodes of each voltage are packaged in reusable poly bags and stored in a file box.

Schauer Mfg. Co.
4511 Alpine Ave.
Cincinnati, Ohio 45242

Floppy Disc for Microcomputers

The FD360 floppy disk drive with integral controller has been developed for microcomputers. It can operate under directions from either the Intel or National Semiconductor microprocessor systems. Hardware interfaces are available for both. Hardware is also offered to interface the system to the Hewlett-Packard 2100 and Data General NOVA families of minicomputers. The FD360 is available in either a single or a dual-disk version, and can be expanded so that four drives can be manipulated by one controller. Pertec's IBM-compatible floppy-disk drives are used in the system. Price: \$2350 in a single drive configuration and \$3000 for two drives. Special interfaces cost a few hundred dollars more.

ICOM
674 Variel Ave.
Canoga Park, Calif. 91303

Disk Drive for DEC Minis

The Data Miser DM05 moving head disk drive has 1.25 million words of storage on a 14-in. diam fixed disk

and provides an average access time of 35 msec with a track-to-track positioning time of 10 msec. The electronic interface is on a single 10 x 10 in. pc board equipped for daisy chain expansion to an DEC RK11/RK05 system. The DM05 is compatible with standard DEC operating systems such as DOS, RSTS, and RSX. Price: \$1950.

International Memory Systems
14609 Scottsdale Rd.
Scottsdale, Ariz. 85260

Microprocessor Systems

The DL-8 and DL-16, 8- and 16-bit microprocessor computer systems are designed for building customized systems. Each consists of four major elements: a central processor, power supply, control panels with display, and cabinet. Both systems are wired so that the user can insert his own ICS; both can be ordered without chips or other IC elements. Units provide I/O channels of up to 128 input, and output ports of 4, 8, or 16 bits. Prices start at \$395 for a completely wired central processor.

Data Numerics, Inc.
141-A Central Ave.
Farmingdale, N. Y. 11735

BRIEFS

Instrumentation Issue of *American Psychologist*

The March, 1975 issue of the *American Psychologist* will be dedicated to instrumentation. Thirty-one separate articles will cover computer technology, biopsychology, sensory information systems, psychotechnology, and training simulators. Topics will include the following, as used by behavioral scientists: laser instrumentation, eye-movement recording techniques, tactile communication systems, biofeedback techniques and devices, microwave radiation, electroanesthesia and electrosleep, acupuncture instrumentation, measures of genital responding, flight and supertanker stimulators, laboratory minicomputers, large-scale digital computers medium-size time-shared computer systems, the computer as a clinician, computer languages, telemetry, recent physiological techniques, cardiovascular psychophysiology, blood pressure and blood flow methods, intravenous preparation, and others. An extended Buyer's Guide for the behavioral scientist will be included.

Microprocessors

Signetics Corp. is shipping samples of a general purpose parallel 8-bit binary singlechip microprocessor. The Intel 8080 and the Signetics 2650 offer about the same number of instructions (78 and 75, respectively) with similar performances. The 2650 can address 32,768 bytes of any kind of semiconductor memory in any kind

of semiconductor memory in any combination. Instructions can be implemented in one, two-, or three-byte lengths with execution times of from 5-10 microsec depending on instruction length, nature of the operation, and the addressing mode. Like Motorola's 6800, the 2650 needs only a single 5-V power supply and one external clock. With only one power supply, two additional interface pins are available for use with control signals. The bus outputs are tri-state and all will drive a standard 7400-series TTL load.

Signetics, Inc.
811 E. Argues Ave.
Sunnyvale, Calif. 94086

Quad NAND Gate

The CD-4093AE is a C-MOS quad two-input NAND gate with Schmitt trigger which consists of four identical Schmitt trigger circuits with each circuit functioning as a two-input NAND gate. Schmitt trigger action occurs on each input without requiring external components. The gate switches at different points for positive and negative going signals. Noise immunity is greater than 50%. The typical hysteresis voltage is 0.6 V at a supply voltage of 5 V, and 1.7 V at 10 V. There is no limit on input rise and fall times, and the unit has a sink-drive-current capability. Applications include wave-shapers, pulse-shapers, monostable and astable multivibrators, and NAND functional logic. Price in large lots is \$2.25.

RCA Solid State Division
Box 3200
Somerville, N. J. 08876

Readable Alphabetic Handwriting

Scan-Data of Morristown, Pa. has added an alphabetic handprint reading feature to its optical character recognition (OCR) systems. The unit is advertised as its optical character recognition (OCR) systems. The unit is being reviewed by the American National Standards Institute. The OCR system is supposed to read the widest possible spectrum of source data alphabetic and numeric handprint as well as data prepared by typewriters, line printers, adding machines, and imprinters.

A recognition unit examines nine overlapping areas of each scanned character for presence or absence of over 200 features specifically designed for the alphabetic handprint character set. Each area is coded to indicate features that are and are not present. This coding allows over 256^9 possible combinations of codes to define characters and their variations. These feature codes, together with character height, character width, and data type information, identify the character being scanned. Individual characters can be reanalyzed as many times as the software specifies, at up to 21 different "shades of

gray' intensity levels, using a dual-level video quantization.

Electronics and Computer News

Corning Glass, Electronic Parts Division (Bradford, Pa.), will be marketing a nickel-film temperature resistor with resistance varying linearly with temperature. The resistance characteristic remains linear over a temperature range from -20°C to $+150^{\circ}\text{C}$.

National Semiconductor Corp. will soon market its 4,096-bit random access memory. National plans on building a part compatible with Texas Instruments' 22-pin 4030, but hopes to get the 300-nsec TI model into the 200-nsec region.

Because of current industry slowdowns, Raytheon Semiconductor has suspended its microprocessor effort for several months.

United Systems Corp. (Dayton, Ohio), a subsidiary of Monsanto, announced a new time interval counter that measures time with a resolution of 100 femtosec. A femtosec is 10^{-15} sec, or .001 picosec.

A memory store and recall option incorporated into the Metrascope M/S 20D allows the operator to store a bargraph display while continuing system monitoring operations. The stored display can be recalled to the CRT at any later time for study while the normal display continues. Or, display action can be stored and held at time of storage. As a result, any particular situation can be studied thoroughly without interrupting monitoring; current data can be compared to prestored data to detect and analyze trends. Developer is Metra Instruments, 1340 Space Park Way, Mt. View, Calif. 94043.

In 1974 total minicomputer/miniperipheral shipments by U.S. firms will pass the billion dollar mark. Projections are for \$3.2 billion in 1978.

Inexpensive Split TV Screen Technique

G. J. McMillan reports an inexpensive (\$.50) technique for splitting a TV screen in the September, 1974 issue of *Biomedical Communications*, p. 16. McMillan wanted to obtain a front face shot of a two-person interview with a used video recorder/monitor/camera system without spending \$1500 for a split screen affects generator. His solution was to reflect half the visual field and pick up the two front facial views. Necessary items included a swivel clamp from a flood light reflector, a 2-in. cosmetic mirror, and a piece of 1/8-in. plywood. An illustration of the device in use and the mounting are provided in the article. The mirror is mounted at an angle a few inches in front of the right half portion of the TV camera lens. The two individuals (e.g., client and therapist) are seated so that the left half of the camera lens picks up the person seated in front, and the angled mirror images the individual seated on the right. The split images are claimed to be sharp in focus when the distance from the lens is equal for Subjects 1 and 2. One

image will be reversed (right to left). Patience is required to adjust the mirror, and to position the camera and chairs for a clear monitor picture of the facial expressions of the two individuals during the interview.

Bedding Preferences of Mice

The "Bedding Preferences of Mice Over Long-Term Confinement" are reported by J. B. Mulder (Michigan State University, Center for Laboratory Animal Resources) in the *Laboratory Animal Digest*, Vol. 9, 1974, Pp. 54-56. Using Fiberglass bedding units, preferences for four bedding materials were tested: shredded wood (Aspen Bed), scented wood shavings (Cedar), ground corn cobs (San-I-Cel), and dehydrated alfalfa (Litter Green). Equal volumes of each product were randomly assigned to three different chambers of each 12-chamber test unit; the center open area was free of bedding. Test units were maintained for a period of 4 weeks without cleaning.

All mice were attracted by the scented Cedar Shavings when placed in the test units in the first day. By the second day the mice had added approximately 30% Cedar Shavings to the chambers containing Aspen Bed. After the fourth day, the Aspen-Cedar mixture was overwhelmingly preferred. After the test units became highly soiled (about Day 20), mice were noted adding a small amount of Litter Green to the Aspen-Cedar mixture. This suggests that Litter Green has odor masking properties; however, since most laboratories clean facilities more often than every 19 or 20 days, this may not be a necessary consideration.

Aspen Bed is supplied by American Excelsior Co. (Edina, Minn.), Cedar Shavings by Osage Products (Eldon, Mo.), Litter Green by the McFadden Co. (Overland Park, Kansas), and San-I-Cel by Paxton Processing Co. (Paxton, Ill.).

Changes in New APA Publication Manual

Publication Policies

- (1) Authors may no longer request early publication.
- (2) Authors are responsible for depositing any material for auxiliary publication. APA no longer performs this function.
- (3) The *Journal of Experimental Psychology* will be published in sections in 1975.

Manuscript Organization

- (1) Article title and by-line no longer carry footnote numbers.
- (2) Authors now supply cover sheets and running heads.
- (3) An appendix is occasionally acceptable.
- (4) Nonretrievable references cited in the manuscript are listed in a new "Reference Notes" section.

Manuscript Preparation

(1) Some journals now require three copies of a manuscript.

(2) Some journals now employ blind review procedures.

Style

(1) *Webster's New Collegiate Dictionary* (1973) is the authority for spelling and abbreviation.

(2) The abbreviations S, E, and O are no longer used in APA journals.

(3) Metric units are used.

(4) Statistical presentation used in the *Journal of Experimental Psychology* is now used in all journals.

(5) In displayed equations, equation numbers are enclosed in parentheses, not brackets.

(6) The letters (a), (b), and (c) in a series are not underlined.

(7) The source of a quotation is cited in parentheses, not brackets.

(8) Rules are to be used in tables only when necessary for clarity.

References

(1) References include only retrievable material.

(2) Arabic numerals are used exclusively in reference lists.

(3) Volume numbers appear in italic rather than boldface type.

(4) The form of reference citation is simplified. Price: \$3. per copy.

American Psychological Association
 Publication Sales Department
 1200 Seventeenth Street, N. W.
 Washington, D. C. 20036