

# PRINTOUT

JOSEPH B. SIDOWSKI

## PRODUCTS

### Magnetic Tape Units

The Digi-Data Model 1300 is an IBM 360 computer-compatible magnetic tape unit costing \$2,100. Characteristics: Incremental write to 1,200 char/sec; or incremental write, slew read; or continuous write to 25 ips; or continuous write, continuous read. Computer capability features include IR gap, LRCC, CRCC, EOF. 9/track, 800 BPI or 7/track.

Digi-Data Corporation  
4315 Baltimore Avenue  
Bladensburg, Maryland 20710  
(301) 277-9378

The Kennedy Model 3110 Continuous Magnetic Tape Recorder is capable of operating at synchronous speeds up to 25 ips. Read/write rates are up to 20 KHz at 800 BPI. Gapping is internally generated; forward and reverse high-speed search operations can be accommodated at 120 ips. Bidirectional motion, no program restrictions, and under capsan control. Price: \$2,800.

Kennedy Company  
540 West Woodbury Road  
Altadena, California 91001  
(213) 798-0953

### Small Computer Terminal Display

The DELTA 1 is a flexible, high-capacity party line I/O bus for small computers like the HP 2116, DATA 620/i, PDP-8/i, INTERDATA Model 4, and NOVA. Compatible with all minicomputer systems, no software modifications are needed. Closed-circuit TV can be superimposed on a TV monitor added at small cost.

The DELTA 1 has a 12-in.-diagonal screen with a 960-character display capability and a unique "selective blink" that highlights selected data on the screen.

Specs are available from Delta Data Systems, Woodhaven Park, Cornwells Heights, Pennsylvania 19020, (213) 639-9400.

### Microprogramming Computer System

The MICRO 800 provides a basic processor with 16 multipurpose registers, 256 words of read-only store, basic console, enclosure and power supply to function as a microprogrammed controller. In addition, it has a 1.1-msec memory cycle time and a 220-nsec microcommand execution time. The core memory capacity is 0-32 K bytes.

The Micro 811 is an adaptation of the 800, with 512 words of read-only store, a 4,096-word by 8-bit core memory and a Teletype interface.

Micro Systems, Inc.  
644 East Young Street  
Santa Ana, California 92705  
(714) 540-6730

### Cartridge Indicator Light

Series CM32 Industri-Lites provide up to 25,000 h of operation

at 105-125 V. The CM 32-1 is designed for mounting in a 15/32-in. keyed hole in panels up to 15/32 in. thick. The CM 32-2 mounts in panels up to 9/32 in. thick.

Chicago Miniature Lamp Works  
4433 Ravenswood  
Chicago, Illinois 60640  
(312) 784-1020

### Pocket-Size FET Multimeter

The Triplett Electrical Instrument Company's Model 310-FET Multimeter weighs 14 oz and measures  $4\frac{1}{4} \times 2\frac{3}{4} \times 1\frac{1}{8}$  in. The pocket-size instrument is not a conventional inexpensive multimeter. It features IGFET circuitry, constant 10-megohm input resistance in all dc ranges, sensitivity about 10 times greater than most bench-type VTVMs in the 0.3-V range, and resistance measuring capabilities to 5,000 megohms. A thumb switch allows you to reverse input polarity; a single switch allows you to choose the test mode and range. There is also a provision for attaching an ac clamp-on ammeter adapter. Price: \$70.

### Subminiature Switches

The Mercutron switch combines the mechanical advantages of a snap-action switch with the electrical properties of a mercury switch. The switch has a fast response with no bounce, ideal for direct switching of solid-state circuits. Bounce time is zero; switching capacity, 60 ma at 24 V dc; contact rise time  $< 1 \times 10^{-9}$  sec; ac contact noise, 10 microvolts.

Mechanical Enterprises  
3127 Colvin Street  
Alexandria, Virginia 22314  
(703) 549-3434

Miniature switches are also marketed by Cherry Electrical Products Corporation, Highland Park, Illinois 60035 and C & K Components, Inc., 103 Morse Street, Watertown, Massachusetts 02172.

### Playback Unit

The Totemite Playback Unit transcribes XYZ signals from magnetic tape to give X, Y, and Z orthogonal ECGs, spatial VCGs, 12-lead ECG, and polarcardiograms through polarcardiograph computer. Contains clamp-triggering circuits for computer to reset base line to zero at each heart beat.

Totemite, Inc.  
1310 East Division  
Mt. Vernon, Washington 98273

### Computer System

Lehigh Valley Electronics, Inc., has introduced INTERACT, a control system to interface the E, language, test environment, and computer. The system utilizes Millison's Automated Contingency Translator as the problem-oriented computer language. The LVE INTERACT is designed to control a 4,096-word 12- or 16-bit core memory general-purpose computer such as the PDP-8 series or the NOVA. A standard ASR 33 teletypewriter is used as the input/output device.

Lehigh Valley Electronics, Inc.  
Box 125  
Fogelsville, Pennsylvania 18051

and

411 Waverly Street  
Palo Alto, California 94301

#### **Analog Magnetic Tape Recorders**

Analog Magnetic Tape Recorders may be obtained from the following:

Alden Elec. & Imp. Equipment Company  
Washington Street  
Westboro, Massachusetts 01581

Ampex Corporation  
401 Broadway  
Redwood City, California 94063

Astro-Science Corporation  
9700 Factorial Way  
South El Monte, California 92733

B & K Instruments, Inc.  
5111 West 164th Street  
Cleveland, Ohio 44128

Bell & Howell  
360 Sierra Madre Villa  
Pasadena, California 91107

Chrono-Log Corporation  
2583 West Chester Pike  
Broomall, Pennsylvania 19008

Crown International  
1718 W. Mishawaka Road  
Elkhart, Indiana 46514

Datatron, Inc.  
1562 Reynolds Street  
Santa Ana, California 92705

Diamond Power Specialty Corporation  
Box 514  
Lancaster, Ohio 43130

General Radio Company  
300 Baker Avenue  
West Concord, Massachusetts 01781

Genisco Technology Corporation  
18435 Susana Road  
Compton, California 90221

Hathaway Instruments, Inc.  
5250 East Evans Avenue  
Denver, Colorado 80222

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

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

Houston Instruments  
4950 Terminal Avenue  
Bellaire, Texas 77401

Infotronics Corporation  
7800 Westglen Drive  
Houston, Texas 77042

Kinelogic Corporation  
873 South Fair Oaks Avenue  
Pasadena, California 91105

Leach Corporation  
1499 Huntington Drive  
South Pasadena, California 91030

Lockheed Electronics Company  
U.S. Highway 22  
Plainfield, New Jersey 07060

3M Company  
3M Center  
Saint Paul, Minnesota 55101

Midwestern Instruments/Telex  
6422 East 41st Street  
Tulsa, Oklahoma 74135

Pacific Electro Magnetics Company  
942 Commercial  
Palo Alto, California 94303

Phillips Electronic Instruments  
750 South Fulton Avenue  
Mount Vernon, New York 10550

Potter Instrument Company, Inc.  
East Bethpage Road  
Plainview, New York 11803

Precision Instrument Company  
3170 Porter Drive  
Palo Alto, California 94304

Raymond Engineering, Inc.  
217 Smith Street  
Middletown, Connecticut 06457

Sangamo Electric Company  
11th & Converse  
Springfield, Illinois 62702

Tracor, Inc.  
6500 Tracor Lane  
Austin, Texas 78721

A. R. Vetter Company  
Box 143  
Rebersburg, Pennsylvania 19550

## Digital Magnetic Tape Recorders

Digital Magnetic Tape Recorders may be purchased from the following firms:

Ampex Corporation  
401 Broadway  
Redwood City, California 94063

Astro-Science Corporation  
9700 Factorial Way  
South El Monte, California 91733

Bell & Howell  
360 Sierra Madre Villa  
Pasadena, California 91107

Connecticut Technical Corporation  
3000 Main Street  
Hartford, Connecticut 06120

Cook Electric  
Data-Stor Division  
6401 West Oakton  
Morton Grove, Illinois 60053

Delta Corders, Inc.  
10610 North Scottsdale Road  
Scottsdale, Arizona 85251

Digi-Data Corporation  
4315 Baltimore Avenue  
Bladensburg, Maryland 20710

Endevco  
801 South Arroyo Parkway  
Pasadena, California 91103

Genisco Technology  
18435 Susana Road  
Compton, California 90221

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

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

Kennedy Company  
540 West Woodbury Road  
Altadena, California 91001

Kinelogic Corporation  
873 South Fair Oaks Avenue  
Pasadena, California 91105

Leach Corporation  
1499 Huntington Drive  
South Pasadena, California 91030

Lockheed Electronics Company  
U.S. Highway 22  
Plainfield, New Jersey 07060

3M Company  
3M Center  
Saint Paul, Minnesota 55101

Midwestern Instruments/Telex  
6422 East 41st Street  
Tulsa, Oklahoma 74135

Non-Linear Systems, Inc.  
P. O. Box N  
Del Mar, California 92014

Peripheral Equipment Corporation  
9551 Irondale Avenue  
Chatsworth, California 91311

Precision Instrument Company  
3170 Porter Drive  
Palo Alto, California 94304

RWP Corporation  
22330 Homestead Road  
Cupertino, California 95014

Raymond Engineering, Inc.  
217 Smith Street  
Middletown, Connecticut 06457

Sangamo Electric Company  
11th & Converse  
Springfield, Illinois 62702

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

Tracor, Inc.  
6500 Tracor Lane  
Austin, Texas 78721

Wiltex, Inc.  
59 Danbury Road  
Wilton, Connecticut 06897

## BRIEFS

### 32-Channel Multiplexer

A 32-channel multiplexer with 40 analog switching devices on a single LSI MOS chip has been developed by IBM. The new component replaces a 16-channel multiplexer and has circuits for multiplexing, timing logic, and two shift registers requiring an external clock and power supplies. For systems applications larger than 32 channels, the chip can be interconnected in multiples of 32 to form a 64-channel, or larger, multiplexer.

The chip functions as a serial multiplexer but was designed to allow modification of masks to produce a random-access multiplexer.

The analog switching devices are arranged in the shape of a horseshoe along the outside of the chip; shift registers and associated logic are in the center. A holding register can be added to produce a random-access capability by modifying the center section.

### **DEC Medium Scale Computer**

The PDP-15 is designed to fill the gap between 8-, 12-, and 16-bit minicomputers and the large, high-performance 32- and 36-bit machines.

The computer is offered in four basic configurations, each upward expandable and each accompanied by the necessary software and peripherals. Core memory begins at 4,096 words, expandable in 4,096-word modules to 32,768 words. Memory is expandable to 131,072 words by means of three additional bits built into the addressing register of the central processor. Memory cycle time is 800 nsec; add time is 1.6 microseconds.

An independent I/O processor permits memory processing and I/O operations to occur concurrently in overlapping cycles.

### **Linear Integrated Circuits Variety Pack**

RCA is marketing its KD 2117 "Linear Integrated Circuits Variety Pack" at \$4.40. The pack contains five linear ICs. Two are KD 2114s, each containing two isolated transistors and a Darlington connected pair; two are KD 2116s, which contain a dual Darlington array; and a KD 2115 multipurpose wide-band amplifier.

A booklet outlines the construction of 12 starter projects, including a 500 mW audio amplifier, various types of r.f. and audio oscillators, mixers, a thermometer, an excellent wireless mike, a marine-band converter, and a suggested power supply to operate the ICs. Available at all RCA distributors.

### **Wireless Close-Circuit TV Camera**

GBC Closed-Circuit TV Corporation of New York has developed a wireless closed-circuit TV camera that lists at less than \$500. The unit can transmit for short distances to any conventional TV receiver without direct wire connections. Solid state and lightweight, the camera features a crystal-controlled transmitter.

### **RCA Photocell Circuits**

A score of circuits featuring solid-state photosensitive devices are described in RCA Photocells Booklet No. CSS-800A, published by RCA, Electronics Components and Devices, Harrison, N.J. 07029. The price is \$.35.

The user should remember that most instruments operated by photocells require careful installation for optimum performance. A focused, rather than a broad, control light source is preferred, while a suitable shade should be used on the photocell to exclude extraneous or ambient light and prevent false triggering.

### **Transistor Substitution**

Semiconductor manufacturers sometimes offer transistors in

family groups. These consist of a series of closely related transistors with almost identical general specs and maximum ratings but different gain values. As a result, Es may attempt to improve performance of an instrument by substituting a high gain for a corresponding low-gain unit. The results are often disappointing. Sensitivity may increase little, if at all, or in an audio circuit the output signal may be distorted. Substituting high-gain devices is seldom accomplished by exchanging one transistor for another. The reasons are several: (1) The unit's bias must be readjusted for optimum performance or the high-gain unit may be biased to near saturation; (2) load values may need readjustment because circuit impedances can change with different transistors; (3) succeeding circuits must be capable of handling signals of increased amplitude; (4) if the increased gain is achieved, it must be sufficient to cause a noticeable change in the characteristics of the apparatus, e.g., a small gain increase in an audio amplifier may be difficult to identify because of the logarithmic response characteristics of the human ear.

### **Hybrid Interface**

Electronic Associates, Inc., West Long Branch, N.J. has a standard hybrid interface for use with all PDP-8 series digital computers and the EAI 580 desk-top analog/hybrid computer. Owners of either system can expand to a hybrid facility by adding this interface as well as the complementing analog or digital computer. Related software integrates the hybrid interface design with the analog and digital computers. The software allows on-line control of the 580 for problem set-up and check-out from the PDP-8 keyboard.

### **Magnetic Tape Transports**

A cartridge-loaded magnetic-tape transport system has been developed by Tri-Data, Mountain View, California 94040, that can sort, match, collate, and merge data. According to the announcement, the system is plug-compatible with PDP-8, PDP-8/S, PDP-8/I, and PDP-8/L computers. The PDP-8 machines can be equipped with four magnetic-tape transports to provide program loading, off-line storage for memory dumps, and buffering for uninterrupted data accumulation.

Storage capacity is 320,000 words, and the data transfer rate is 462 12-bit words per second in variable-length records. Ten microinstructions are used for status checks and tape-action control, including simultaneous reading and writing.

### **Lease a Laser**

Scientific Leasing, Inc., of Wethersfield, Connecticut 06109, leases new microwave and laser equipment. If you wish to use a particular laser system, for example, Scientific Leasing will buy it and rent it to you.