

film to Polaroid without film back changes.—*Tektronix, Inc., P. O. Box 500, Beaverton, OR 97077.*

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Translation stages

The type MT50 micropositioning stages offer trajectory accuracy $\pm 1 \mu\text{m}$ over 16 mm travel, with load capacity 5 kg. The stage is available in either manual or dc motor driven modes for 1 μm resolution, and in stepper motor drives offering step sizes 1 or 0.1 μm . Encoder output for digital position display is offered as an option. The stages can be stacked to provide X, Y, and Z axis motions.—*Klinger Scientific Corp., 83-45 Parsons Blvd., Jamaica, NY 11432.*

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Pulse generator

The model 8160A programmable pulse generator offers programmable timing accuracy 2% of programmed value and repeatability 0.5%. The basic pulse generator is single channel; a dual channel option is available. Up to nine complete instrument settings can be stored and recalled. Complete operating mode settings, pulse parameters, and output settings are recalled by push-button or by addressing one of nine storage registers via an IEEE-488 interface bus. Batteries maintain data



storage when the instrument is turned off. Pulse period is settable from 10.0 ns to 999 ms with three-digit resolution. Internal and external trigger modes and external gate and counted burst are provided. Up to 49.9 ns, pulse width and delay are set using delay lines, producing pulses with negligible jitter. Above 50 ns, delay and width are generated using a combination of an internal 20 MHz clock and the delay lines. Delay range is 0–999 ms and pulse width range is 3 ns–999 ms. Transition times, with leading and trailing edges independently programmable within a ratio 1:20, are 5 ns–9.9 ms. Upper and lower levels of output may be separately set. Maximum difference between levels with a 50- Ω load and source is 9.99 V and minimum difference is 0.1 V. All

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output levels may be doubled by operating with internal load disabled. In the two-channel version, an A + B mode allows doubled output amplitude and also permits variable three-level signals.—*Hewlett-Packard Company, 1501 Page Mill Rd., Palo Alto, CA 94304.*

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Laser detector

The model DA-60A avalanche photodiode detector-amplifier detects and amplifies low-power pulsed laser energy over the visible to near-infrared spectral range. The detector provides a responsivity of 0.5 V/ μW with a bandwidth greater than 50 MHz. The instrument is 2.25 in. long and fits standard 1.25-in.-diam-optical eyepiece mounts. Both clear and infrared optical windows are supplied.—*Applied Science Corporation, 412 Martin Ave., Santa Clara, CA 95050.*

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Linescan camera

The M series linescan camera uses arrays with 256, 512, or 1024 diode points. The photodiode element spacing used, 0.001 in., gives the camera the equivalent resolution when the measured object is imaged at 1:1 ratio, and the 0.1% resolution holds for any object that occupies the camera's full field of view. Thus a lens of unity magnification can image the diameter of a 1-in. round bar onto the array, with each diode representing 0.001 in. The black, anodized camera head contains clock and scan pulse interface circuits with a video pre-amplifier, in addition to the solid state

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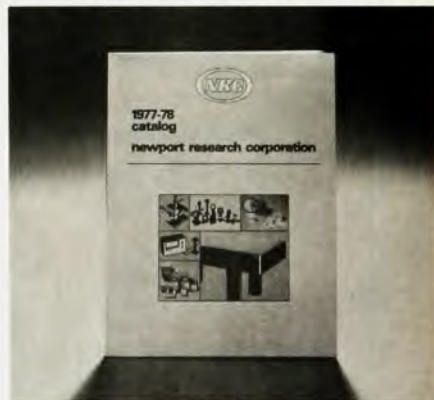


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silicon diode array, enabling the camera to be operated remotely from the main system processor. The camera is connected to the driver unit through a multiway screened cable. The maximum self-scanning rate for the diode array is 4 MHz. The rate can be increased to 8 MHz by using both standard shift registers and taking



two video signals out in parallel. For applications that require still higher rates, the array can be segmented into quarters operating at 4 MHz, for a total data rate of 16 MHz. For dimensional monitoring of wide materials, two cameras, one at each edge, are combined with a single control chassis. The 0.1% resolution of the field of view is not related to the measured width. Complete dimension gauging systems are offered as standard units.—**Integrated Photomatrix, Inc., 1101 Bristol Rd., Mountainside, NJ 07092.**

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Crt camera

The new C-28 camera has an electric shutter to allow remote operation. It also provides accurate repeatable exposure times. The shutter's input trigger is TTL compatible to make interfacing easy. Reliability is said to be superior to that of mechanical shutters. Power requirements are 15 V dc, ± 0.5 V dc at 750 mA. Magnification can be changed from 0.67 to 0.85 to permit full-frame photographs of both 8 x 10-cm and 10 x 12-cm displays. This is accomplished by changing spacing rings on the lens barrel. The f 2.8 lens provides the performance needed in general crt photography. The strength in the frame and crt bezel attachment mechanism does away with camera sag when heavy objects such as roll film backs are attached. Two film backs are included. The first is a Graflok 4 x 5-in. roll film back. The second is a Polaroid type 405 back modified to fit directly onto the Graflok back. This special interface allows the user to switch from negative

film to Polaroid without film back changes.—*Tektronix, Inc., P. O. Box 500, Beaverton, OR 97077.*

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Mass analyzer

The IQ 200 quadrupole mass analyzer covers the range 0-200 amu. Three video display modes include a tabular mode that allows independent monitoring and precise calibration of up to ten masses, a bar graph display mode that permits broad spectra data display with identification of mass number, and an analog mode that provides for display of peak shapes. Manipulation



of spectra is possible in all modes, permitting data storage, background subtraction, or inversion. The analyzer employs a unitized mass filtering element and is available with Faraday cup for partial pressures to 10^{-11} Torr or with electron multiplier for pressures to 10^{-13} Torr. It is keyboard programmable and can be interfaced with a computer for remote operation and control.—*Ificon Leybold-Heraeus, Inc., 5 Adler Dr., East Syracuse, NY 13057.*

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Spectrophotometer

The model 3600 recording uv-visible spectrophotometer uses holographic gratings to provide optical uniformity and low stray light, typically 0.05% at 220 nm. To achieve high stability, sample and reference beam paths uti-

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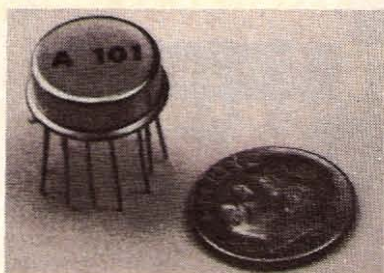
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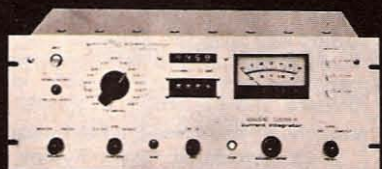
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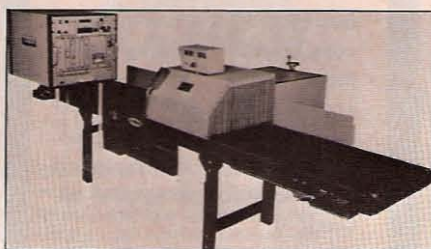
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lize common optics, the same mirrors being used in both. Programmed and fixed slits are provided, enabling recording at constant signal/noise ratios with automatic programmed slits or at constant spectral bandpass with fixed slit widths selected from 0.05 to 2.0 mm (0.125–5.0 nm bandpass). By selecting the proper time constant and absorbance from the range 0–3, higher density samples can be run directly without dilution. Data may be displayed in absorbance, concentration, or percent transmission. A calibration dial allows entry of a k -factor so that absorbance values are automatically converted to concentration in units of choice without running a calibration standard and without setting up repetitive analyses. Other features include four time constant selections, direct recording of data plus first and second derivatives, wavelength programming at up to 5 preselected wavelengths, absorbance overrange warning, 11 recorder chart speeds, 5 scanning speeds, and 7 absorbance spans.—*Beckman Instruments, Inc., Box C-19600, Campus Drive at Jamboree Blvd., Irvine, CA 92713.*

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Materials identification system

System 6500 consists of a materials conveyor belt, x-ray energy spectrometer, and microprocessor. Specimens are identified and sorted on a continuous flow basis. The analysis of up to 100 different alloys or materials of different element concentrations are



preprogrammed in the microprocessor data comparison system. As each specimen is passed through the lead curtained shroud of the x-ray spectrometer, it is exposed to gamma radiation that excites fluorescence of the constituent elements. Each x-ray fluorescence spectrum is compared with the spectra stored in the microprocessor. The complete cycle of excitation, data acquisition and reduction, comparison, and sorting takes place on the order of 15–20 s per specimen. The material identity number is displayed and necessary material routing signals are provided. The operator is completely

shielded from the x rays generated in the system.—*Keve Corporation, 1101 Chess Drive, Box 4050, Foster City, CA 94404.*

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Pulse height analyzer

The series 30 multichannel pulse height analyzer includes a 9-in. diagonal cathode ray tube display, 1024 channel memory, and both PHA and MCS data acquisition modes. Digital integration, spectrum compare, and input-output interfacing for TTY, EIA devices, and digital cassette are included in the basic unit. Plug-in options are available for a detector bias supply, high-resolution amplifier, and various additional input-output interfaces.—*Canberra Industries, Inc., 45 Gracey Ave., Meriden, CT 06450.*

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New Literature

Resistive divider—A product data sheet describes the Model HVD-100 100 kV dc high impedance precision resistive divider. General specifications, e.g., input, output, accuracy, and stability, are noted and an outline drawing shows size dimensions. A block diagram illustrates the application to measuring high-voltage parameters. This unit is said to provide laboratory facilities with an inexpensive method for measuring high voltage with accuracy better than 0.5%.—*Spellman High Voltage Electronics Corp., 7 Fairchild Ave., Plainview, NY 11803.*

Molecular weight—Application note LS-3 describes molecular weight measurement techniques using the KMX-6 low-angle laser light scattering photometer.—*Chromatix, 1145 Terra Bella Ave., Mountain View, CA 94043.*

Optics and optical filters—A 28-pp. catalog contains two sections. One contains an expanded line of surplus items which includes: optical interference filters for the ultra violet, visible and infrared; it also includes: neutral density filters, mirrors, color glass filters, prisms, lenses, lamps, precision pinholes, filter storage boxes, fiber optics, and camera lenses. The other lists standard stock optical filters: optical filters, long and short pass filters, analytical line filters, atomic absorption filters, laser line filters, neutral density filters, color glass filters, hot and cold mirrors, calibrating filters, and optical accessories.—*Corion Corp., 73 Jeffrey Ave., Holliston, MA 01746.* □