

new products

The items listed have been selected from among those appearing concurrently in "New Instruments" or "New Materials and Components" in *Review of Scientific Instruments*. We gratefully acknowledge the cooperation of the editor of *RSI*, J. B. Horner Kuper, the associate editor for New Instruments, Joshua Stern, and the associate editor for New Materials and Components, R. K. Eby.

These descriptions are based on information supplied by the manufacturer and in some cases from independent sources. Neither *Review of Scientific Instruments* nor *PHYSICS TODAY* assume responsibility for their correctness.

Corona oscilloscope

The model CDO-77A oscilloscope, combining solid state and tube circuitry, is available in various bandwidths. Featuring plug-in function modules for all critical circuits, including power supply, the instrument consists of a 5-in. cathode ray tube display and a main frame that accommodates up to six modules. An accessory rack is available to carry additional



modules. Patching is done on the main circuit board. Modules include a wide-band, all solid state, vertical amplifier that interfaces processed corona signals from the preamplifier to the display tube; a hybrid circuit preamplifier with tube front end that is not susceptible to damage by transients; a horizontal amplifier; a pulse calibrator with eight-step output selectable from 1 to 250 pC by detented switch; a window circuit and peak voltage marker that permits blanking of noise in the 100°–180° and 280°–360° portions of the test sine; a pulse height discriminator that counts corona pulses in a specified time period discriminated according to preselected corona levels, provides three separate channels and counters, and features a selectable time base calibrated in seconds and/or cycles; an X-Y recorder con-

trol; a picocoulomb meter; and a voltmeter.—*Hipotronics, Inc., P.O. Drawer 'A', Brewster, NY 10509.*

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Laser

Pulsed ultraviolet radiation at the 308 nm wavelength of XeCl is obtained by operating the TAC II model 150 XR uv Eximer laser with a mixture of helium, xenon, and hydrogen chloride. At repetition rates between 1 and 5 pulses/s, a static fill of this gas mixture provides 15–20 mJ/pulse, with operating life to half power greater than 20 min. Single shot output is greater than 30 mJ. Pulse to pulse reproducibility is $\pm 5\%$. Optics consisting of a 5-m radius total reflector and partially reflecting output mirror are available to convert the 150 XR laser for XeCl operation.—*Tachisto Incorporated, 13 Highland Circle, Needham, MA 02194.*

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Spectrometer

The μ X 7000 series of modular, micro-computer based analytical instruments for x-ray, Auger, and electron energy loss spectrometry, combines color-coded video display, 63-character ASCII keyboard, and dedicated single function controls in a single interactive console. Four alternative data acquisition modes are keyboard selectable: x-ray energy spectrometry, pulse height analysis, sequential pulse counting or signal averaging, and simultaneous x-ray energy spectrometry and sequential analysis. Standard data reduction functions include bidirectional data transfer between memory subgroups, peak integration, background subtraction, peak

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programmed read-only memory chips. Data storage is expandable from a basic 2048 channels to 4096 channels; an auxiliary miniature floppy disk package is available for mass data and supplementary program storage.—*Kevex Corporation, 1101 Chess Drive, Box 4050, Foster City, CA 94404.*

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Refractometer

The KMX-16 laser differential refractometer is said to achieve sensitivity of 2×10^{-7} refractive index units by using a laser source to provide greater beam collimation than the mercury or tungsten sources conventionally used. Integral to the instrument is a telescope that increases the effective moment arm. A front panel digital readout provides nonambiguous indication of displacement value. Test cell temperature is regulated by a closed loop control system that permits operation over the range -10° to $+165^\circ\text{C}$. Desired temperature is selected by a thumbswitch. Reproducibility is specified as 1×10^{-6} refractive index units.—*Chromatix, 560 Oakmead Parkway, Sunnyvale, CA 94086.*

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Temperature meter

The model AD2036 is a $3\frac{1}{2}$ -digit, line powered, digital panel meter that includes all necessary thermocouple linearization circuitry, internal multiplexing for multichannel scanning, and logic for computer and peripheral interfacing. Up to six thermocouples may be selected manually or scanned automatically. External components permit the channels to be scanned under computer control. Optical isolation at the front end protects against up to 250 V rms on the analog input. The instrument can be specified for interfacing with type J, K, or T thermo-

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Counter

The model 5370A time interval counter measures time intervals of single events with 20-ps resolution and 100-ps accuracy in the range ± 10 s. A feature of the instrument is automatic computation of statistical data on pulse trains, and it will also measure waveform, period, and frequency to 100 MHz with up to 11 digits in 1-s measurement time. The resolution cited is



achieved by use of a digital vernier interpolation that eliminates the usual ± 1 count error. The statistics feature with selectable sample size permits measurements such as pulse jitter characterization. In addition to mean time, the counter can display the maximum and minimum time intervals recorded in a sample and the standard deviation. Sample size is selectable in steps of 1 (for single shot measurements), 100, 1 k, and 100 k. Statistics can be used for time interval measurement and for frequency or period with 1 period gate. A set-reference feature is used to cancel systematic error. A trigger level function shows the start and stop channel voltages on the display with 10-mV resolution.—*Hewlett-Packard Company, 1507 Page Mill Rd., Palo Alto, CA 94304.*

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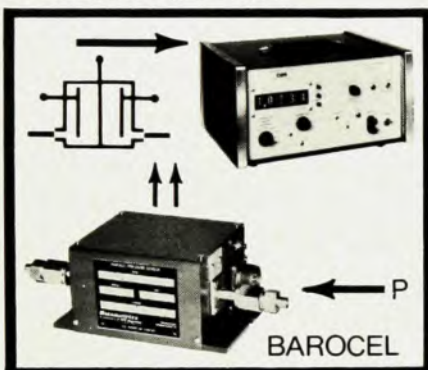
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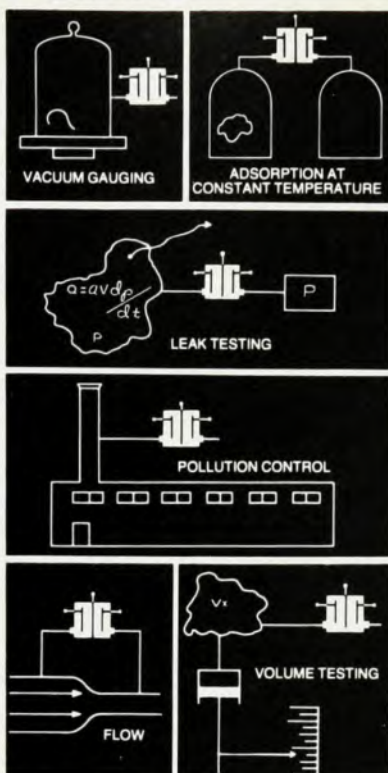
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Pressure calibrator

The model 1127-2 portable gage calibrator is designed for the calibration of differential dial and similar pressure-vacuum transducers *in situ*, where portability, accuracy, and ease of operation are required. The instrument has five operating scales: 0 to ±400.00 in. H₂O; 0 to ±1000.0 in. H₂O; 0 to ±30.000 in. Hg; 0 to ±100.00 kPa; and 0 to +100 psid. Readout is provided by a digital display with parallel dc

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analog output. System accuracy is 0.05% of reading. The system is supplied with hoses and a quick disconnect fitting to which a variety of pressure fittings can be mated to allow connection to a pneumatic or hydraulic gage under test. —Gould, Inc., 340 Fordham Rd., Wilmington, MA 01887.

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Double monochromator

This double monochromator for vacuum ultraviolet spectroscopy utilizes two holographic gratings, with simultaneous grating rotation to provide additive dispersion. Range of operation is 300-3500 Å and 2500 Å to 1 μm scans from zero order. Resolution is 0.5 Å in the vacuum ultraviolet for study of strongest transitions. The

instrument features short focal length with $f/4$ aperture ratio, providing high throughput with low stray light for use in circular dichroism and fluorescence measurements. Vertical or horizontal slits are provided and the instrument will operate in any attitude.—*Minute-man Laboratories, Inc., 916 Main St., Acton, MA 01720.*

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New Literature

Light sources and detectors—A 6-pp. brochure describes instruments for the generation and detection of light including monochromators, tandem monochromatic systems, high-intensity lamp housings, solar simulators, corrected spectra ratio spectrometer, and spectroradiometric systems.—*Schoeffel Instrument Corp., 24 Booker St., Westwood, NJ 07675.*

Platinum resistance thermometers—A 4-pp. bulletin describes the new Type 100 R 30 Thermafilm temperature detectors. Included in the bulletin are graphs comparing the response time of the new units to conventional wire wound elements. Tables give the accuracy and the resistance/temperature characteristics of these thick-film sensors. Complete technical data, as well as dimensional drawings, are included.—*Matthey Bishop, Inc., Malvern, PA 19355.*

Multichannel analyzer—A 16-pp. brochure describes the TN-1710 modular multichannel analysis system including details of the system's modular, microcomputer based architecture as well as capabilities and operating features. Capabilities for nuclear spectroscopy, x-ray elemental analysis, and optical spectroscopy are described.—*Tracor Northern, Inc., 2551 West Beltline Highway, Middleton, WI 53562.*

"Switchboard Instruments"—A 20-pp. catalog provides technical specifications on the Medallion Series of switchboard instruments. This catalog contains complete specifications on standard 270° ac and dc voltmeters and ammeters, wattmeters, varimeters, frequency meters and power factor meters as well as a detailed technical information section. Also included are specifications for a wide selection of multipliers, shunts, and potential and current transformers. These instruments feature interchangeable meter scales that do not require individual calibration, taut band precision meter movements and standard, interchangeable mounting configurations.—*Yokogawa Corp. of America, 5 Westchester Plaza, Elmsford, NY 10523.* □

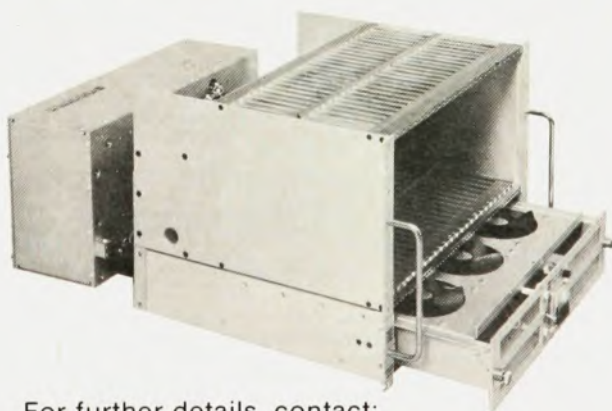
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