NEW PRODUCTS

The descriptions of the new products listed in this section are based on information supplied to us by the manufacturers, and in some cases by independent sources. PHYSICS TODAY can assume no responsibility for their accuracy. To facilitate inquiries about a particular product, a Reader Service Card is attached inside the back cover of the magazine.

Software Package for Germanium Detector Gamma Spectroscopy

EG&G Ortec is offering Omnigam, a new software package for analyzing gamma-ray spectra acquired from a germanium detector. It is designed for use in conjunction with the company's Spectrum Master family of spectroscopy workstations.

Omnigam is a menu-driven system that is capable of peak searching, nuclide identification and quantitative analysis, as well as deconvolution of overlapping or multiple spectral peaks. Each menu screen has an associated help screen to assist new users, and menus can be customized to accommodate special job streams or other software packages.

The software is designed to search for spectrum peaks at user-defined frequencies and to scan for and identify unspecified peaks. EG&G Ortec's A53-BI optional software library contains information on over 350 nuclides to facilitate peak identification.

Omnigam also incorporates automatic recalibration; corrections for absorption, geometrical variation and peaked background; and a variety of on-screen plots showing goodness–of–fit for calibrations and deconvolutions. Output can also be directed to a line printer or high-resolution plotter.

Omnigam is supplied on $5\frac{1}{4}$" and $3\frac{1}{2}$" diskettes for use on IBM PC-compatible computers with at least 256 K of memory and 4MB of hard disk space. *EG&G Ortec, 100 Midland Road, Oak Ridge, Tennessee 37831-0895*

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Logical Analyzer for Digital Hardware Design

Tektronix has introduced its new Prism 3001HSM hardware-analysis logic analyzer. The instrument's focus on applications, we are told, "provides the designer with a complete set of tools aimed directly at solving digital hardware analysis problems." It offers a 2-GHz acquisition rate for high-resolution timing analysis, a 300-MHz acquisition rate for high-speed state analysis, 12 K transitionally stored deep memory, fault triggering, dual thresholds and waveform digitization.

This portable instrument lets the designer select any of the following acquisition modes: 2-GHz ultra high-resolution acquisition, 400-MHz high-speed transitional acquisition, 300-MHz high-speed synchronous data acquisition, 200-MHz dual-threshold acquisition and 400-megasample/sec analog waveform digitizing.

Leadsets can be changed on either or both of the Prism 3001HSM probes,

making possible a variety of acquisition combinations. For timing analysis, there can be twenty 400-MHz channels or up to four 2-GHz channels. For margin analysis, one can have up to twenty channels of dual-threshold acquisition. For state analysis, eighteen 300-MHz data channels are available. Or for waveform analysis, there can be two 3.5-bit (11-level) waveform digitizing channels. All data are latched in the probes and time stamped to provide time-correlated displays. Traditional storage keeps only the data changes. Short data bursts or long durations of data are stored efficiently, we are told, so that the 12-K memory functions like 120 K of conventional analyzer mem-

ory. *Tektronix, P.O. Box 4600, Beaverton, Oregon 97076*

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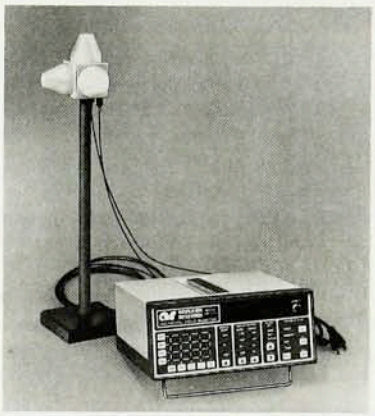
Ultra-Broadband Electric Field Monitoring System

Amplifier Research has introduced the Model FM1000, an ultra-broadband electric-field monitoring system designed for use in rf susceptibility testing. A single, small isotropic probe in the new system senses field-strength data from 1 to 300 V/m and transmits these data from a shielded room to the master control console outside. The instrument covers a five-decade frequency band from 10 kHz to 1 GHz. The FM1000 is said to avoid the compromises of previous systems that required frequent band



switching and pauses to exchange probes, and thus made broadband swept-frequency testing difficult.

The new system performs measurement, control and alarm functions automatically after test parameters have been set on the front panel. A battery-powered transceiver, integral with the sensor probe, communicates with the ac-powered control station through twin fiberoptic cables. Up to four sensor probes may be placed at various locations in the shielded room, enabling the user to select a high–low or average reading at the control panel. *Amplifier Research, 160 School House Road, Souderton, Pennsylvania 18964–9990*

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Modular Precision Digital Oscilloscope

LeCroy is introducing the Model 7200, an oscilloscope that simultaneously digitizes four channels at 1 gigasample per second for transient signals and at 20 GS/sec for repetitive signals with 400 MHz bandwidth. Each channel has its own analog-to-digital converter providing between 8 and 11 bits of resolution, depending on the frequency response required.

The 7200's modular architecture puts the waveform digitizing in the plug-in, not in the mainframe, so it maintains its digitizing rate and waveform memory when channels are added. The oscilloscope automatically configures and calibrates itself according to which modules are installed. Each channel contains 50 kilosamples of memory for fast waveform acquisition, allowing 1-GS/sec digitizing to be maintained for waveforms up to 50 μsec in duration. A two-plug-in system (four channels) can be operated with two independent time–bases as triggers, or synchronized from a master time–base and trigger. A sequence trigger mode records closely spaced signals at up to 1000 waveforms per second.

Built-in time-domain analyses include automatic readout of pulse characteristics, statistics on these parameters, *xy* plots, waveform math and signal averaging. Frequency-domain analyses include 100- to 50 000-point fast Fourier transforms and inverse FFTs, with displays of phase, magnitude, power spectrum and other functions. These analyses can be applied to "live," stored or already processed waveforms. Up to eight signals can be analyzed simultaneously and in real time. The Model 7200 performs automatic testing or unmanned monitoring and logging, and it contains an internal hard disk for logging waveforms.

The price is $16 000 for the 7200 oscilloscope mainframe and $16 900 for the 7242 two-channel digitizing plug-in. *LeCroy, 700 Chestnut Ridge Road, Chestnut Ridge, New York 10977-6499*

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Picosecond Step Generator Kit

Hypres has introduced its picosecond step-generator kit, which is said to provide extremely fast rise times for use in picosecond step response or time-domain transmission experiments. Rise times are claimed to be under 20 psec, and step size is 450 mV. The kit includes Hypres's step generator driver, an ultrafast tunnel diode and cabling to connect the kit to a sampling oscilloscope or TDT test setup. It can be used as a stand-alone signal source or as an enhancement to Hypres's PSP-750 picosecond signal processor.

When operating in the standard mode, the step-generator driver runs without any synchronous trigger signals, with a repetition rate that can be varied from 100 kHz to 1 MHz. When operating in the pretrigger mode, the driver provides the step signal and a synchronous trigger signal. The timing delay between these two signals can be varied from 0 to 102 nsec. In the external trigger-operation mode, the driver can trigger synchronously with a signal provided from another source.

The price of the picosecond step generator kit is $4990. *Hypres, 500 Executive Boulevard, Elmsford, New York 10523*

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Temperature Controller for Laser Diodes

The new Model LDT-5412 from ILX Lightwave is a low-cost thermoelectric temperature controller designed to provide temperature stability over a control resistance range from 10 Ω to 200 kΩ, which corresponds roughly to the temperature range from −37°C to over + 100°C for a typical 10-kΩ thermistor. The low-noise, bipolar constant-current-output LDT-5412 is well suited, we are told, for controlling the temperature of laser diodes.

The controller also provides stable cooling of infrared photodetectors, to ensure the repeatability and accuracy of optical power measurements. Depending on the thermal load, the temperature stability can be maintained within 0.01°C. Other features of the controller include front-panel thermistor set point and thermoelectric module-current limit. An adjustable, hybrid proportional and integral gain control is designed to optimize settling time. *ILX Lightwave Corporation, P.O. Box 6310, 34368 E. Frontage Road, Bozeman, Montana 59771*

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Scanning Photoluminescence System for Semiconductors

Waterloo Scientific has introduced a new instrument for spatially and spectrally resolved photoluminescence measurement and mapping. The SPM-200 is based on scanning-laser-microscope technology developed by the firm in collaboration with Bell-Northern Research. It includes an MS DOS-compatible, 80836-based computer and sophisticated image processing with display capabilities.

The system is designed for high-resolution mapping of photoluminescence in semiconductor materials and devices. The photoluminescence of a semiconductor can be used to judge the quality, uniformity or degree of crystallinity of a particular material or epitaxial layer. The technique is used in the development of semiconductor laser diodes and other microelectronic devices based on gallium arsenide or indium phosphide ternaries and quaternaries.

In a typical experiment, samples up to 4″ in diameter are scanned on precision x–y translation stages, yielding maps of their photoluminescence with spatial resolution approaching 2.5 microns. The SPM-200 includes two lasers. It can detect photoluminescence from 0.5 to 5.0 microns. Software is included. Options include sample chambers for mapping photoluminescence of 3″ wafers at temperatures as low as 12 kelvin. *Waterloo Scientific, 419 Phillip Street, Unit 9, Waterloo, Ontario, Canada N2L 3X2*

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New Literature

Excimer laser micromachining of heat-sensitive ceramic workpieces is discussed in an applications-oriented, illustrated 8-page article that appears in *Industrial Report No. 6*, published by Lambda Physik, *289 Great Road, Acton, Massachusetts 01720*

Vacuum catalog–Huntington Laboratories has published a new 192-page catalog of vacuum products. It introduces dozens of new manipulators, motion feedthroughs and motion mounting platforms. It also lists more than 200 individual UHV positioning devices. New patented improvements are also to be found among the extensive listing of Huntington vacuum valves. *Huntington Mechanical Laboratories, 1040 L'Avenida, Mountain View, California 94943* ■