

Spectrum's hardware review

For more information on the following products, circle numbers on the Reader Service Card corresponding to bracketed numbers.

Synthesized signal generator is BCD or IEEE 488 frequency programmable with 1-Hz resolution, Comstron/Adret [90]; Optoelectronic programmer is versatile and adaptable to a variety of process control conditions, Elnik Instruments, Inc. [91]; Four-pin TO-3 5-ampere, 5-volt hybrid voltage regulator includes a full-wave diode bridge, Fairchild Camera and Instrument Corp./ Integrated Circuits Group [92]; Flexible and abrasion-resistant lead wires are available for continuous use at 750°F and 1000°F (399°C and 538°C) in a wide range of gauge sizes, Havg Industries, Inc. [93]; OEM printer mechanism simultaneously prints graphics, alphanumerics, and symbols, Gulton Industries, Inc./Measurement and Control Systems Div. [94]; Series of npn/pnp audio power driver transistors in popular TO-220 packages feature low distortion and good transient response due to current-gain linearity, specified and matched between complementary pairs, and a 30-MHz current gain/bandwidth product, Motorola Semiconductor Products Inc. [95]; Energy-efficient sheet-steel product (a fully processed carbon lamination grade) is available for use in laminated cores of electric motors and transformers, National Steel Corp. [96]; Multiple-output switching power supplies for computer and electronic-control applications feature power levels up to 1150 watts; regulated outputs, at full load, over inputs of 184 to 250 volts, ac; and extreme-brownout protection, Pioneer Magnetics, Inc. [97]; Programmable, high-spectral-purity, frequency synthesizer for OEM system and NMR spectrometry features direct synthesis (no phase-locked loops) over 0.1- to 160-MHz range, with a choice of resolution from 0.1 Hz to 100 kHz, Rockland Systems Corp. [98]; Line of precision terminations with SMA interfaces are available with either a plug or jack interface, for mating with the MIL-C-39012 Series SMA, 50-ohm connector family, to save space and weight, Sealectro Corp./RF Components Div. [99]; Porcelanized steel substrates offer cost and performance advantages, as a circuit base, for screen-printed thick-film materials, Thick Film Systems, Inc. [100]; 20-lead version of this manufacturer's Hi-Rise DIP sockets enable the use of 25 percent more sockets per board than competitive designs, Wells Electronics, Inc. Plastics Div. [101].

Applications literature

Applying thermal analysis to electronics manufacturing

This 16-page booklet contains 20 application studies that demonstrate the usefulness of the three primary thermal analysis techniques: differential scanning calorimetry, thermogravimetric analysis, and thermomechanical analysis. A spectrum of parameters related to electronics manufacturing are characterized, including PC board composition, component encapsulation, and wire insulation.

Perkin-Elmer Corp., Instrument Div., Main Ave., Mail Station 12, Norwalk, Conn. 06856. **Circle No. 120**

Precision potentiometers serve as position-sensors

This ten-page technical paper shows how microprocessor-based automotive electronics systems have created a need for precision position-sensors. The conductive plastic potentiometer can fill this need. Special materials and techniques are used to develop low-cost units for electronic fuel injection, throttle position sensing, exhaust gas recirculation, etc.

New England Instrument Co., Kendall Lane, Natick, Mass. 01760.

Circle No. 121

Fundamentals of the modern power supply

This 35-page catalog contains a two-page glossary of terms and five pages of background information entitled "Modern power supply principles and practice." Schematics and associated text briefly outline everything from the "ideal" constant-voltage supply to answering practical power-supply applications questions about series-stacking, effects of wire-run resistance, remote sensing, and power distribution as determined by various loads.

Datel Systems, Inc., 1020 Turnpike St., Canton, Mass. 02021. **Circle No. 122**

All about transient waveform recording

This 22-page handbook covers a variety of transient waveform recording techniques and system configurations. Twenty-eight different applications in fields ranging from materials testing to aerodynamics to medical research are presented. In most examples, block diagrams illustrate system configuration and/or interfacing.

Physical Data, Inc., 8220 S.W. Nimbus Ave., Beaverton, Oreg. 97005.

Circle No. 123

How to prolong switch contact life

This six-page reprint explains how to prolong switch contact life through

material selection. The main causes of contact deterioration are welding (sticking), excessive resistance, contact transfer, and erosion. These are examined, with remedies recommended. Also discussed are relevant electrical, mechanical, environmental, and economic factors that must be assessed when choosing switch contact material.

Deringer Manufacturing Co., 1250 Town Line Road, Mundelein, Ill. 60060.

Circle No. 124

Fundamentals of magnetic testing instrumentation

This 12-page catalog contains extensive test setup descriptions that accompany the product specifications for fluxmeters, flux voltmeters, universal magnetic testing sets, and ac core-loss test sets. Emphasis is on performing magnetic measurements in accordance with ASTM specification A343.

Electrical Instrument Service, Inc., 25 Dock St., Mt. Vernon, N.Y. 10550.

Circle No. 125

Understanding high-voltage power supply tests

This 12-page bulletin describes high-voltage power-supply loading methods for both constant and changing load; test setups and procedures for voltage calibration; and test setups for both static and dynamic output-voltage regulation. Product data are included on the last three pages.

Spellman High Voltage Electronics Corp., 7 Fairchild Ave., Plainview, N.Y. 11803. **Circle No. 126**

Spectrum's literature review

To receive these items, circle the indicated Reader Service Card numbers.

Semiconductor handbook contains extensive cross-references and glossary, Radio Shack [135]; Experimental results of new high-performance thick-film resistor system, Electro-Science Laboratories, Inc. [136]; Applying electron-beam processing to industrial applications, High Voltage Engineering Corp. [137]; Choosing core material for switched-mode power supplies, Stackpole Carbon Co. [138]; Proper preventive maintenance for disk packs and cartridges, Nashua Corp. [139]; CRT product guide contains comprehensive definitions and data on phosphor screens, RCA [140]; How to select and apply reed switches, Hamlin, Inc. [141]; Code words for aluminum underground distribution cables identified, Aluminum Association, Inc. [142]; Using CO₂ laser reflow micro soldering for attaching PC board components, Coherent [143]; Innovative engineering designs using clad-metal strip stock, Engelhard Industries Div. [144]; Programming articles featured in new personal calculator digest, Hewlett-Packard Co. [145].